

USEPA

C-68-M-5

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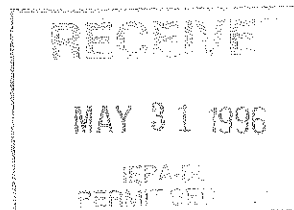
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May 30, 1996



Via Federal Express

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**Attn: Mr. Jim Moore**

Re: 1978030005-Will County  
Lemont/Ceco Corporation  
ILD990785453  
RCRA Log No. C-68-M-3  
RCRA - Closure

Dear Mr. Bakowski:

On behalf of my client, Robertson-Ceco Corporation, I am transmitting an original and three copies of the Phase I RCRA Facility Investigation (RFI) Documentation Report for Robertson-Ceco's Lemont, Illinois facility prepared by its consultant, Carlson Environmental, Inc., in accordance with the Agency's Work Plan Approval letter of September 12, 1995. The Documentation Report includes the required Independent Registered Professional Engineer and Laboratory Certifications in the form attached to the Agency's letter. The Owner/Operator Certifications will be submitted shortly.

While the conclusions to be drawn from the information collected during the RFI are set out in detail in the Documentation Report, Robertson-Ceco wishes to emphasize that the RFI demonstrates that all electric arc furnace dust (the only hazardous waste ever managed at the site) was identified and excavated in 1985, and has long since been contained within the on-site RCRA

Closure Unit. IEPA's concerns that some furnace dust deposits may have been over-looked during the 1985 excavation, have now been answered in the negative.

The Documentation Report also includes the results of groundwater monitoring done during the RFI at fourteen different monitoring wells. These results uniformly show all metals of concern, including lead, cadmium and hexavalent chromium, to be below detection limits in groundwater beneath the site. This groundwater quality information is consistent with the results of quarterly groundwater monitoring done during RCRA post-closure, as well as previous groundwater monitoring. It confirms that groundwater has not been adversely affected by site activities, despite very permeable surficial materials and the presence of substantial amounts of furnace dust in a large storage pile for many years pre-RCRA, and lesser amounts during the early 1980's before the RCRA Closure Unit was constructed. When all of the RFI data and information is considered, Robertson-Ceco believes that it has affirmatively shown that the area of the site outside of the Closure Unit has been clean-closed, and poses no threat of harm to human health or to the environment. As a result, there is no need for further corrective action. Robertson-Ceco will, of course, continue to perform its post-closure groundwater monitoring and other obligations as respects the RCRA Closure Unit in accordance with the regulations.

As required by Paragraph 3 of the Agency's September 12, 1995 letter, a revised schedule for additional RCRA closure activities, if any, as well as revised closure and post-closure cost estimates will be prepared and submitted to the Agency, if and when the need for any additional closure activities is determined.

Robertson-Ceco and Carlson Environmental representatives are available to meet with the Agency at mutually convenient times to discuss the Documentation Report. Arrangements for such a meeting should be made through me. We appreciate the Agency's cooperation and responsiveness in this long and complex process.

Very truly yours,

Original Signed By  
Clifton A. Lake

Clifton A. Lake

CAL/pg

cc: Mirtha Capiro, USEPA (w/encl.)  
Mike Heaton, IEPA (w/o encl.)



**CARLSON ENVIRONMENTAL, INC.**

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**ROBERTSON-CECO CORPORATION**

**Lemont, Illinois**

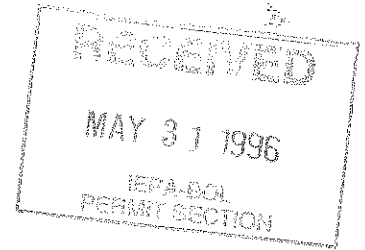
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**RCRA FACILITY INVESTIGATION  
PHASE I REPORT**

**MAY, 1996**



**CARLSON ENVIRONMENTAL, Inc.**



## **RCRA FACILITY INVESTIGATION PHASE I REPORT**

**JTY**

**Robertson-Ceco Corporation  
Lemont, Illinois**

Prepared by  
**CARLSON ENVIRONMENTAL, INC.**  
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Project No. 9236A  
May 1996





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## **1.0 INTRODUCTION**

### **1.1 Purpose of the RFI**

This Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Phase I Report (Report) has been prepared to fulfill corrective action requirements at a facility owned by Robertson-Ceco Corporation (Robertson-Ceco) (Figure One). The RFI Phase I activities were performed by Carlson Environmental, Inc. in accordance with the RFI Phase I Work Plan prepared by Halliburton-NUS Corporation (NUS) and approved by the Illinois Environmental Protection Agency (IEPA) on September 12, 1995.

The objectives of the Phase I RFI, were to determine if electric arc furnace (EAF) dust (RCRA listed hazardous waste K061) remained on-site outside of the RCRA Closure Unit, and to collect information to assess the impact of the entire 25-acre site on human health and the environment.

### **1.2 Project Background**

The subject property (the "Site") was owned during the 1970's and early 1980's by The Ceco Corporation (Ceco), a corporate predecessor to Robertson-Ceco. It was used in connection with the operation of an electric arc furnace steel production plant owned by Ceco located north of the Site, for the management of steel-making by-products, including emission control dust (EAF dust) from the electric arc furnaces. In 1980, EAF dust was designated as "listed" hazardous waste K061 by the United States Environmental Protection Agency (USEPA) under RCRA. During the active life of the Site, approximately 12,500 cubic yards of EAF dust were deposited. Most of the EAF dust (10,000 cubic yards) was deposited in a large bermed storage area. The remainder was deposited at undocumented locations in the eastern part of the Site.

EAF dust deposition at the Site ceased in 1980, before the RCRA hazardous waste management regulations became effective. Following excavation and disposal by Ceco of approximately 10,000 cubic yards of EAF dust from the large bermed storage area at a RCRA-permitted off-site hazardous waste disposal facility during 1981-1982, Ceco determined that roughly 2,500 cubic yards of EAF dust remained on-site. In 1983, Ceco contracted with NUS to conduct an investigation to locate and remove the remaining EAF dust deposits. Under an IEPA-approved RCRA Closure Plan, the remaining deposits were located and excavated in 1985 together with approximately 29,500 cubic yards of miscellaneous non-hazardous steel plant by-products, primarily



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slag, which was co-excavated with the EAF dust to insure that all EAF dust was removed. These materials, altogether comprising a volume of 32,000 cubic yards, were placed in a RCRA interim-status waste pile closure unit constructed at the Site in accordance with an IEPA-approved Closure Plan.

The RCRA Closure Unit occupies approximately two acres of the Site and is surrounded by a 10-foot high chain link fence which is locked to prevent unauthorized access. RCRA post-closure ground water monitoring of the Closure Unit has disclosed no significant impact on the quality of the ground water in the uppermost aquifer. The hazardous constituents for which EAF dust is a listed hazardous waste (*i.e.*, lead, cadmium and hexavalent chromium), are either non-detectable or present in extremely low concentrations in the ground water.

In order to demonstrate that the Site does not pose a threat to human health or the environment, Robertson-Ceco, proposed on February 7, 1994, to conduct a RCRA corrective action investigation. The proposal was accepted by the IEPA in a letter dated May 10, 1994. IEPA's letter included a detailed scope of work for a Phase I RCRA RFI Work Plan and required that a Work Plan be submitted by October 1, 1994.

Robertson-Ceco's RFI Work Plan was timely submitted and approved by IEPA on September 12, 1995. IEPA's approval letter required that the RFI Documentation Report be submitted not later than May 31, 1996.

## **2.0 GENERAL SITE INFORMATION**

### **2.1 Site Description**

The Site is located one-mile west of the city of Lemont in Will County, Illinois. (Figure One) and occupies approximately 25 acres. Access to the Site is by an unnamed paved road from New Avenue. The Site is characterized by the presence of steel production wastes and by-products (primarily furnace slag) which cover the entire property. Several small buildings are located in the western portion of the Site. A former slag processing operation (which in the past had been used to crush and size slag prior to sale as aggregate) is located in the north-central portion of the Site (Figure Two). Most of the Site surface is not vegetated, although some small shrubs and trees are present along the southern and northern boundaries.

According to the Flood Insurance Rate Maps (FIRMs) Community Panel Numbers



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170695-0080 for Will County and Panel Numbers 170054-0165 and 170054-0190 for Cook County, the Site is located almost entirely in Zone C, which is characterized as areas of minimal flooding. A small peninsula of "Zone A" extends into the site area from the I & M Canal near the northwestern part of the Site. Zone A is characterized by areas of 100-year flooding (Figure Two).

A two-acre RCRA closure unit is located in the central portion of the Site secured with a locked chain-link fence. Five RCRA post-closure ground water monitoring wells are present and are used to perform regular post-closure ground water monitoring. The wells were sited and are sampled in accordance with applicable Illinois RCRA regulatory requirements.

The Site is within a heavily industrialized area. It occupies a portion of a former flagstone (Silurian dolomite) quarry. It is bounded to the east by Dudek, Inc., a scrap iron and metal dealer; to the south, by the Gulf, Mobile & Ohio Railroad; to the west, by an unnamed road which provides access to the Auburn Steel Plant (formerly the Ceko Steel Plant). A Union Oil Company of California oil refinery is located west of the unnamed road. To the north of the Site, is the I & M Canal, the Santa Fe Railroad and the Auburn Steel facility (Figure Two).

### **2.1.1 Historical Site Operations**

Prior to the use of the Site as a scrap-processing and by-product management area in conjunction with the steel mill, it was a limestone quarry in which flagstone was mined for use as building stone. The mining operation left an open pit area roughly 10 feet in depth across most of the Site, with a bedrock surface as its base.

The steel plant to the north was built by Ceko and began operations in 1969. The plant consists of several electric arc scrap-melting furnaces as well as fabrication facilities for billet and other shapes, including concrete reinforcing bar. The source of the steel melted in the electric arc furnaces was and is, steel scrap.

Beginning in 1969, the Site was used in conjunction with the steel mill to process scrap metal for the furnaces, and to manage solid wastes and by-products generated by the steel mill. The principal by-product from electric arc steel-manufacturing is slag, with much lesser amounts of mill scale and EAF dust. In addition to these uses, the Site has been used for slag reclamation operations. The slag reclamation process involved the processing of slag "skulls." Slag skulls are large, slag masses that form in the furnaces where the steel is melted with fluxing material. Often the melting of scrap in the furnace is incomplete, and partially melted scrap steel becomes incorporated in the solidified slag mass. Because of its value as furnace feed stock,



the steel scrap incorporated in the skulls was reclaimed by breaking and crushing the skulls with a wrecking ball. The separated steel scrap is then returned to the mill to be used as feed stock for the furnaces. The crushed slag was either used as fill at the Site, or further crushed, sized and sold as aggregate. The slag reclamation process is no longer active. Slag produced by Auburn Steel Company, the current owner of the steel mill, is managed elsewhere.

Over the years, the continued deposit of slag at the Site resulted in the gradual expansion of the slag fill from west to east as well as an increase in elevation of the Site. The Site surface is now at an average elevation of 10 feet above the bedrock surface (Figures Three, Six, Seven and Eight).

When steel scrap is melted, a very fine dust (EAF dust) is produced. In 1972, the State of Illinois adopted air pollution control regulations which required installation of particulate emission control equipment on the steel plant's electric arc furnaces to capture EAF dust emissions. Baghouse dust collectors were installed to comply with the new regulations. After being collected in the baghouses, EAF dust was mixed with water to form a slurry in order to facilitate handling and control fugitive emissions. The slurry was then transported in trucks from the steel mill to the Site and deposited.

From late 1972 until 1980, slurried EAF dust collected by the baghouses was deposited at the Site. During 1972 - 1973, slurried EAF dust was reportedly brought to the Site in trucks, and deposited into various low areas in the eastern portion of the Site. These deposits were subsequently covered by layers of slag as the Site surface built up.

After about 1973, the slurried EAF dust was deposited exclusively in a discreet bermed area created for that purpose. The bermed area was also located in the eastern portion of the Site.

When the RCRA hazardous waste management regulations became effective in late 1980, and EAF dust became a listed hazardous waste, Ceko applied for and received RCRA interim status to store EAF dust in a "waste pile." No EAF dust was deposited at the Site after November 19, 1980, the effective date of the RCRA regulations. After that date, all EAF dust generated at the steel plant was transported directly to a RCRA-permitted off-site hazardous waste disposal facility. During 1981-1982, approximately 10,000 cubic yards of previously deposited EAF dust was excavated from the principal bermed EAF dust storage area, and disposed of at an off-site hazardous waste disposal facility. At that time, based on steel plant operating





records, Ceco determined that approximately 2,500 cubic yards of EAF dust remained in the subsurface at the Site.

On February 3, 1983, Ceco sold the steel mill to Thomas Steel Company. The sales agreement provided that Ceco would retain title to the Site which was then operated under lease by Dudek, Inc. Following the sale of the mill, Ceco leased the Site to Thomas Steel which in turn sub-leased the Site to Dudek. Under this arrangement, Dudek continued to provide the same scrap and slag processing services to Thomas Steel as it had previously provided to Ceco. Subsequently, following Thomas Steel's bankruptcy, the steel mill was sold to its current owner, Auburn Steel Company.

In 1991, Ceco Industries, Inc., the corporate parent of The Ceco Corporation, and H.H. Robertson & Company merged to form Robertson-Ceco Corporation.

Since the RCRA interim status waste pile closure unit construction was completed in July of 1988, no hazardous waste management activity has occurred at the Site, other than RCRA post-closure ground water monitoring and inspection, and the RFI Phase I activities described in this Report.

#### 2.1.2 Current Site Operations

All operations at the Site have ceased with the exception of RCRA post-closure activities associated with the Closure Unit.

### **2.2 Previous Investigations**

Following the sale of the steel mill to Thomas Steel, Ceco hired NUS as its environmental consultant to locate and develop a RCRA closure plan for the 2,500 cubic yards of EAF dust still present at the Site.

#### 2.2.1 1983 - EAF Dust Delineation and Impact Investigations

**Initial Site Characterization** - In April 1983, NUS began a study to determine the location of the remaining subsurface EAF dust deposits. The study included interviews of former Ceco employees and Dudek personnel, and a thorough Site inspection. These activities were followed by a surface and subsurface investigation utilizing soil borings and other sampling techniques to delineate the locations of EAF dust deposits beneath the then-existing Site surface. Collectively, this work provided the basis for the design of a subsurface investigation.



**Subsurface Investigation and EAF Dust Deposit Delineation** - NUS' EAF dust deposit delineation field investigation began in October 1983, with sampling subsurface materials using a split-barrel sampler during the advancement of 17 soil borings across the entire Site. The borings and sampling were extended to bedrock. The locations of the borings and the results of the investigation were presented in the Final Closure Plan for Waste Storage Area EPA ID No. ILD990785453, Will County, Illinois which was submitted to IEPA (January, 1985).

In general, NUS found the subsurface to consist of sand-to-boulder sized slag. Sample recovery was low, except in areas where discrete layers of fine-grained material which was believed to be EAF dust, was encountered. Conclusions drawn from research and personnel interviews concerning the probable locations of subsurface EAF dust deposits were confirmed during this phase of the investigation. Deposits of fine-grained materials, believed to be EAF dust, were found in the Site subsurface only in the eastern portion of the Site where EAF dust was expected to be encountered. Eight of the 17 borings encountered fine-grained material, all of which occurred in visually distinct subsurface layers indicative of the deposition of a fine water-slurried material. Samples of fine-grained material taken from these eight borings were subjected to EP Toxicity analyses for lead, cadmium and hexavalent chromium. One boring of the 17 contained fine-grained material which was EP toxic for lead and cadmium. Based upon these analyses, and the characteristic presentation as extremely fine-grained material in distinct subsurface layers, NUS determined that layers of fine-grained material found in the subsurface were most probably EAF dust deposits. Chemical analysis could not be used to identify EAF dust because EAF dust is a "listed" RCRA hazardous waste regardless of its chemical constituents (which vary substantially) and because metals are present at the Site from other sources. Nevertheless NUS' evaluation of all of the circumstantial evidence concluded that the fine-grained material found in distinct subsurface layers was most likely EAF dust.

**Evaluation of the Ground Water Regime** - Temporary ground water monitoring wells were installed in ten locations for the purpose of collecting water level/elevation data to determine the ground water flow direction and to collect ground water samples for analysis. The monitoring wells were 2-inch diameter PVC with slotted well screens throughout the saturated zone.

The temporary ground water monitoring wells were converted from the soil borings so that representative ground water samples could be obtained from across the Site, as documented in the January 1985 Closure Plan. The temporary monitoring wells were sampled twice during 1983. Measurements from these wells indicated that the ground water table was above the bedrock surface in the southern portion of the Site,



and within the bedrock under other portions of the Site. Ground water elevations varied slightly from October to December 1983.

The analytical results from the temporary ground water monitoring wells (unfiltered samples) are presented in the January 1985 Closure Plan for lead, cadmium and chromium. In general, the unfiltered ground water samples were turbid, and showed detectable levels of lead, cadmium and chromium when analyzed under the "total metals" laboratory protocol.

During the ground water investigation, NUS also sampled four off-site wells previously installed by a prior environmental consultant (Eldridge Associates). One well was located up-gradient, south of the Site on the railroad right-of-way, and three wells were located down-gradient of the Site, on the I & M Canal right-of-way. The Eldridge monitoring wells were 4-inch PVC and were screened below the bedrock surface.

Analytical results from these wells, which reflect ground water quality in the uppermost aquifer both up-gradient and down-gradient of the Site showed non-detectable to extremely low concentrations of arsenic and chromium in both the up-gradient and down-gradient wells.

**Surface Water Evaluation** - Surface water was sampled twice during the 1983 field investigation. The results of the surface water analyses are provided in Ceko's responses to IEPA comments on the January 1985 Closure Plan. Surface water was sampled from three points along the I & M Canal, which is the closest surface water which receives runoff from the Site. Analysis of the I&M Canal surface water samples showed concentrations of arsenic, chromium and lead below Maximum Contaminant Level's (MCL's) or non-detectable.

Standing surface water was also sampled within the slag processing area where water was temporarily ponded on the bedrock surface. The laboratory results showed detectable levels of arsenic, cadmium, chromium, lead and selenium, however, all concentrations were below their respective MCL's.

#### 2.2.2 1984 - Further EAF Dust Deposit Location and Ground water Studies

During August 1984, nine test pits were excavated with a back-hoe to provide additional information concerning the subsurface distribution of EAF dust deposits. In addition, eleven temporary ground water monitoring wells were installed into the top portion of the bedrock beneath the Site to further characterize ground water flow conditions in the saturated zone within the bedrock.



The results of the 1984 subsurface investigation were consistent with the 1983 borings, and disclosed EAF dust deposits in distinct layers of fine-grained material in the subsurface. Temporary monitoring wells showed that the ground water flow was the same as ground water flow patterns in the unconsolidated slag material above the bedrock, indicating that these units were hydraulically interconnected. Analyses of ground water samples from these monitoring wells showed no detectable concentrations of lead, cadmium or hexavalent chromium.

### 2.2.3 January 1985 - RCRA Closure Plan

In January 1985, a RCRA Closure Plan for the Site was submitted for approval to IEPA. The plan summarized the Site data concerning the probable distribution of subsurface EAF dust deposits, and described the physio-chemical processes which appeared to restrict transport of metals in ground water beneath the Site.

Because for reasons discussed earlier in this report (Section 2.2.1), there is no chemical analysis capable of identifying EAF dust, Ceko's initial Closure Plan provided for visual identification of EAF dust deposits during excavation and for physical separation and off-site RCRA disposal of all excavated material less than 0.25 inches in diameter.

The Closure Plan also included information which demonstrated that because of geochemical conditions present in the Site subsurface, transport of metals in the ground water as dissolved species was not possible. The presence of large amounts of alkaline slag and the calcium-magnesium carbonate which comprises the dolomitic limestone bedrock insure that any low pH water entering the subsurface would be immediately neutralized, and any dissolved metals present in such water would precipitate as insoluble carbonate complexes. These same permanently alkaline conditions will prevent any ground water moving through the subsurface from being capable of leaching metals from the Site materials because the requisite low pH conditions required for leaching to occur, cannot exist.

A series of IEPA comments on the Closure Plan were addressed by NUS in April 1985 and on June 13, 1985, the IEPA approved the Closure Plan with several conditions. Work on the closure began during July 1985.

On September 18, 1985, a Site inspection was conducted by representatives of Ceko, IEPA and NUS. Following that inspection, a Compliance Inquiry Letter was prepared by the IEPA which identified several concerns with respect to the implementation of the approved Closure Plan. At a November 29, 1985 meeting to



discuss these issues, IEPA advised Ceko that the hazardous waste "mixture rule" would require that the mechanical waste separation process operate to insure that all traces of EAF dust be removed from the non-hazardous (*i.e.*, greater than 0.25 inches in diameter) portion of the excavated material before the non-hazardous material could be returned to the excavation as fill. On January 20, 1986, Ceko advised IEPA that it was physically impossible for the mechanical separation process to remove all traces of EAF dust from the non-hazardous portion of the admixed excavated material, and consequently Ceko would prepare an Amended Closure Plan, which would close the Site by placement of the excavated EAF dust and admixed non-hazardous solid materials in an on-site RCRA Closure Unit.

During the course of the above discussions, excavation continued in accordance with the IEPA approved closure plan. Excavation was completed in early January 1986, and produced approximately 32,000 cubic yards of solid material comprised of EAF dust (2,500 cubic yards) and admixed non-hazardous slag/other materials (29,500 cubic yards).

#### 2.2.4 March 1986 - Amendment to the Closure Plan

In March 1986, Ceko submitted an Amendment to Closure Plan which proposed to place the admixed EAF dust and non-hazardous co-excavated material in an on-site RCRA waste pile closure unit. The amended Closure Plan was approved by the IEPA on September 11, 1986 with certain conditions which required Ceko to perform additional investigation at the Site to insure that all EAF dust deposits had been located and excavated during the 1985 excavation. Ceko objected to that portion of the IEPA's Closure Plan approval which required a supplemental Site investigation, but did not object to any IEPA approval condition with respect to the proposed closure unit design. Accordingly, Ceko directed NUS to construct the Closure Unit. Construction of the RCRA Closure Unit was completed in accordance with the IEPA-approved design, on or about August 1, 1988.

#### 2.2.5 1988 - 1993

Ceko pursued administrative remedies under Illinois law, to review IEPA's September 11, 1986 Closure Plan approval conditions concerning the supplemental Site investigation and certain aspects of the post-closure ground water monitoring plan. For the most part, Ceko was unsuccessful in its challenges.



#### 2.2.6 1993 - Installation and Sampling of Ground Water Monitoring Well Network

In April, 1993, NUS installed five RCRA post-closure ground water monitoring wells at the Site. Two wells were installed hydraulically up-gradient and three wells in down-gradient locations. As required by applicable ground water monitoring regulations, the post-closure ground water monitoring wells were installed in the uppermost aquifer, which is partly within the upper portion of the bedrock unit. Quarterly ground water sampling rounds have been conducted since the wells were installed.

The wells were sampled to establish background water quality levels in accordance with 35 ILL. ADM. Code, Part 725, Subpart F. Analyses of unfiltered ground water samples collected during successive calendar quarters since well installation demonstrate that concentrations of lead, cadmium and hexavalent chromium in the ground water are either below detection limits or detectable at extremely low concentrations. These results show that the ground water in the upper-most aquifer is not being significantly impacted by the Closure Unit.

In the fall of 1995, Robertson-Ceco hired Carlson Environmental, Inc. (CEI) to perform the RCRA post-closure ground water monitoring and the RFI activities.

### **2.3 Regional and Site Physiography**

The present-day physiographic features in the Site area were formed approximately 20,000 years ago by glacial and fluvial actions which physically shaped the surrounding land. Glacial deposits almost completely mask the bedrock surface in the area (Willman, 1971). The Site, which is located in the Des Plaines River Valley, lies within the physiographic province known as the Central Lowlands, a broad, relatively low area that roughly outlines the glaciated area. The local relief in the Central Lowlands seldom exceeds a few hundred feet. For the most part, the Site is above the 100-year flood plain elevation of the Des Plaines River (FEMA, 1982 - Figure Two).

The Site is situated on a former flagstone quarry, which is located in the northeast portion of Will County, near the Will County/Cook County border in Lemont, Illinois.

Surface water from the Site discharges to the I&M Canal located immediately to the north. Precipitation at the Site infiltrates quickly through the highly permeable slag



and discharges to the ground water system. A small, intermittent drainage ditch runs the length of the southern boundary of the Site. An intermittent drainage channel located on the west-central portion of the Site runs from south to north and discharges to both the I & M Canal and the drainage ditch to the south of the Site. Water that collects in the former slag processing area discharges to the I & M Canal through a drainage ditch.

There are no significant surface water bodies, streams or wetland areas located at the Site. Significant surface water features in the vicinity of the Site include the Des Plaines River, the Chicago Sanitary and Ship Canal, and the I&M Canal.

The climate is continental with cold winters and warm summers. Average daily temperature is 51.4°Fahrenheit (F). The highest average daily temperature is 81°F in August, and the lowest daily temperature is 20.3°F in December. Mean annual precipitation is 38 inches. The prevailing wind direction is easterly at a velocity of less than 13 miles per hour.

## **2.4 Site Geology**

The geology in the vicinity of the Site is characterized by relatively flat-lying, dolomitic bedrock overlain by river alluvium within the river valley and glacial deposits which form the surficial materials outside the river.

Dolomitic (calcium magnesium carbonate) bedrock lying beneath the Site belongs to the Niagaran Series of the Silurian System, Joliet Formation and is 40 to 60 feet thick (Willman, 1971). The Site is within a former quarry where dolomite was removed for use as building stone. Approximately 10 feet of limestone was removed from the estimated original surface down to approximately an elevation of 580 feet above mean sea level (msl). The slag fill at the Site is located within the quarry pit. A bedrock sill, consisting of bedrock left in place, is present between the Site and the I & M Canal. The dolomite is characterized by a yellow-brown (buff) color, moderate fracture densities with vertical fractures ranging from one-half foot to several feet apart, and horizontal bedding fractures that produce a general flaggy nature to the near surface bedrock. Bedrock is also exposed along the I & M Canal, which forms the northern boundary of the Site. The surface of the Site is covered with a layer of fill consisting primarily of steel furnace slag, which is approximately 10 feet in thickness across the Site. A summary of the slag thickness recorded in the soil borings and depth to bedrock is included in Table 8. Geologic cross sections were constructed to show the vertical distribution of the slag deposits and the Site geology. One cross section (A-A') was constructed through the center of the Site from the



western boundary to the eastern limit of slag (see Figure Eight). Two additional cross sections were constructed perpendicular to A-A' in order to depict the three-dimensional nature of the deposits (B-B' and C-C' Figure Eight).

## **2.5 Site Hydrogeology**

The Des Plaines River, Chicago Sanitary and Ship Canal, and I & M Canal all flow within the dolomitic bedrock in the vicinity of the Site.

The Des Plaines River drains to the Illinois River approximately 20 miles downstream from the Lemont area, and ultimately to the Mississippi River.

Generally, the ground water beneath and in proximity to the Site flows northwest as depicted on Figure Four. This ground water flow direction agrees with the earlier findings of NUS.

Infiltration of precipitation at the Site is moderate to high given the relatively high permeability of the Site materials. The uppermost aquifer at the Site is a water table aquifer, which fluctuates seasonally from within the slag fill (*i.e.*, above the bedrock surface) to below the bedrock surface (NUS, 1994). Field data demonstrates that these units are hydraulically connected. Ground water flow in the bedrock is primarily through a fracture system. Most of the surface water that infiltrates the Site enters the ground water and discharges to the I & M Canal as base flow discharge. Ground water from beneath the Site that does not discharge to the I & M Canal discharges to the Chicago Sanitary and Ship Canal, which lies immediately north of the steel mill.

No drinking water sources exist downstream of the Site that take water from the I&M Canal. Similarly, no drinking water sources using ground water are located hydraulically down-gradient from the Site between the Site and the Chicago Sanitary and Ship Canal.

## **3.0 NATURE AND EXTENT OF CONTAMINATION**

### **3.1 Identification and Description of Site Units**

The approved Work Plan for the RFI Phase I activities divides the Site into three identifiable units: Existing RCRA Closure Unit, Previously Excavated Areas, and the





Remaining Area (Figure One).

### 3.1.1 Existing RCRA Closure Unit -Unit 1

This unit is located in the approximate center of the Site, along the southern border, with dimensions of 300 feet by 220 feet. The Closure Unit is surrounded by a locked chain-link fence. The Closure Unit contains 32,000 cubic yards of excavated materials (approximately 29,500 cubic yards of non-hazardous slag admixed with 2,500 cubic yards of EAF dust). Five post-closure monitoring wells, two hydraulically up-gradient and three hydraulically down-gradient, surround the Closure Unit. For a detailed description of the Closure Unit see NUS's Draft Work Plan for the Phase I Facility Investigation Appendices A and B, Volume 2 of 2 (NUS, 1994).

### 3.1.2 Previously Excavated Areas-Unit 2

This unit includes the former 10,000 cubic yard principal EAF dust storage area as well as the remaining areas of the Site which were excavated down to the bedrock surface in 1985. The 32,000 cubic yards of excavation spoil from this unit were placed into the RCRA closure unit described in Section 3.1.1.

### 3.1.3 Remaining Area-Unit 3

Unit 3 is the remainder of the Site. Subsurface boring and trenching investigations conducted in 1983, 1984, 1985 and 1995/1996 did not identify any subsurface EAF dust deposits in this area. In general, the subsurface in this unit is characterized by slag deposits up to 16 feet in thickness on top of the quarried bedrock surface. For a detailed description of each of these investigations, refer to Section 2.2 and to previous NUS investigation reports (1983, 1984, 1985 and 1993).

## **3.2 Site Survey**

In February 1996, Reiter & Associates surveyed the Site and adjacent rights of way as required under the approved RFI Work Plan.

A Plat of Survey constructed by Reiter & Associates was utilized as a base map to construct the Site maps included in this Report (Figure One and Three through Seven).



### **3.3 Waste Characterization**

#### **3.3.1 EAF Dust**

EAF dust is designated by USEPA as listed hazardous waste (K061). USEPA's designation was based upon the fact that EAF dust may contain the hazardous constituents lead, cadmium, and hexavalent chromium, 40 C.F.R. Part 261, App. VII. Physically, EAF dust is a very fine particulate, 70 percent of which, by weight, is less than 5 microns in diameter. Its chemical make-up is primarily iron oxide together with oxides of other metals of a degree and type dependent upon the alloying and associated non-ferrous metals present with the scrap steel which was being melted when the EAF dust was created (*e.g.*, lead may be present from a lead-acid automobile battery which was not removed from an automobile carcass before compacting).

#### **3.3.2 Slag**

Slag is a non-metallic alkaline by-product of electric arc steel making which contains residual fluxes and other materials (including some metals) fused under high temperature in a vitreous mass. Electric arc furnace slag is not a hazardous waste and in fact is commonly sized and sold for use as aggregate. Most slag present on the Site ranges in size from 100 sieve size to 1 to 2 inches in diameter with occasional pieces up to 6 inches or more in diameter. Larger masses of slag are irregularly shaped with jagged edges. The texture of even the finest slag particles is far more coarse than that of EAF dust. Assuming a uniform thickness of approximately 10 feet across the entire Site, approximately 460,000 cubic yards of slag are present at the Site.

#### **3.3.3 Mill Scale**

Mill scale is another non-hazardous by-product in the steel making process which is present at the Site. Mill scale is iron oxide (rust) which forms on and is removed from the surface of steel bars during the rolling process. Mill scale was periodically deposited at the Site. No records were maintained as to the quantity or locations of disposed mill scale.



## **4.0 INVESTIGATION AND CHARACTERIZATION OF SITE FILL MATERIAL**

### **4.1 EAF Dust Investigation**

During December 1995 and January 1996, CEI retained Rock and Soil Drilling Corporation to advance 28 soil borings, 24 on-site (SB-1 through SB-24 - Figure One) and 4 off-site (SB-25 through SB-28 - Figure Two), to bedrock (depths from 3.5 to 18.5 feet below ground surface (bgs)). Samples at these locations were taken in accordance with the approved RFI Work Plan. Four surface perimeter samples (PS-01 through PS-04) and ten sediment samples (SS-01 through SS-10) were also collected. No EAF dust deposits were identified at any grid location using the EAF dust identification criteria contained in the RFI Work Plan. Attachment A includes photographs taken during the RFI field activities.

#### **4.1.1 Sampling Grid**

Soil borings were located according to the grid pattern specified in the approved RFI Work Plan (300 foot centers) and advanced to bedrock to characterize the soils at the Site as well as to collect samples for environmental analysis (Figures One and Two and Table One).

#### **4.1.2 Soil Boring Procedures**

Soil borings were advanced with a Diedrich D-120 drill rig utilizing 4.25 inch inner diameter hollow-stemmed augers. The soil borings were continuously sampled using a standard 2 inch diameter by 24-inch long split-spoon sampler which was driven into the subsurface by a 140 pound hammer free-falling 30 inches. All drilling and sampling activities were performed in accordance with the American Society for Testing Materials (ASTM) and USEPA methods. Geologic materials were visually classified and recorded on boring logs (Attachment B). Because EAF dust can only be identified visually, a CEI senior geologist was present during all soil boring operations to examine the materials collected. In addition, an Illinois Licensed Professional Engineer, Kenneth W. James, oversaw all field activities.

#### **4.1.3 Soil Sampling and Analytical Methods**

The reader should recognize that references to "soil" in the context of the Site surface and subsurface in fact describe furnace slag because nearly the entire Site is comprised of furnace slag on a quarried bedrock surface. Little, if any, true "soil" exists.



After each sample was brought to the surface, the split-spoon sampler was opened and described by the CEI geologist. Following physical observation and description of the sample, a CEI staff scientist transferred the sample into laboratory-supplied new glass jars equipped with Teflon-lined lids. The samples were maintained at a temperature of approximately 4 degrees C in an insulated container. All samples were maintained under strict chain-of-custody procedures. This process was repeated continuously until bedrock was encountered. All samples were delivered daily to Great Lakes Analytical laboratory in Buffalo Grove, Illinois for analysis.

Samples from each soil boring were assigned alphanumeric identification numbers based on the soil boring number, and the depth of collection. The shallowest sample was given the letter "A", the next "B", *etc.* (*e.g.*, SB-1A, SB-1B).

**Soil Borings** - From each boring, one sample was analyzed for the "long list" of metals which consists of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver, thallium, vanadium, and zinc as specified in the IEPA letter dated September 12, 1995. Two other soil samples from each boring were analyzed for the "short list" of metals consisting of lead, cadmium, and hexavalent chromium. Soil samples were chosen for laboratory analysis based on visual observations (grain size). The finest soil sample from each boring was submitted for "long list" analysis and the two next-finest samples were submitted for "short list" analysis. All metals analyses were performed using the "total metals" protocol as required by the approved RFI Work Plan. The laboratory results for these analyses are summarized on Table 2 and the complete laboratory report is included in Attachment D.

To obtain typical background soil samples, four off-site soil borings to bedrock (SB-25 through SB-28) were advanced. These borings were sampled in the same manner as the on-site soil borings. Locations of the background soil borings are shown on Figure Two. Two of the off-site soil borings were advanced on the UNOCAL petroleum refinery property to the west of the Site, and two borings were advanced on property east of the Site. The analytical results for these samples are summarized on Table 3 and the complete laboratory reports are included in Attachment D.

**Perimeter Samples** - The four perimeter samples were collected from the surface at the locations depicted on Figure One. At each location a stainless steel trowel was used to scoop the soil, and transfer it to a laboratory supplied new glass jar equipped with a Teflon-lined lid. The same protocols were used for these samples as for the soil boring samples. The results are summarized in Table 4 and the complete analytical report is included in Attachment D.



**Sediment Samples** - The ten sediment samples were collected from the perimeter of the Site as shown on Figure One. At each location, the surface soil (or if water was present as in the case of the I & M Canal samples, the uppermost soil), was collected and placed into laboratory supplied new glass sample jars. These samples were submitted to the laboratory for analysis of the "long list" of metals. Figure One depicts the sampling locations and Tables 4 and 5 contain a summary of the laboratory results. The complete analytical report is included in Attachment D.

#### 4.1.4 Soil Sampling Results

A summary of the analytical results for the soil boring samples collected during the RFI field activities is included in Tables 1-3. Ninety-three soil samples, including 11 duplicate quality assurance / quality control (QA/QC) samples, from the soil borings were submitted to the laboratory for metals analysis. Of these, 33 samples were submitted for the "long list" and 60 soil samples for the "short list" as shown on Table 1. Several of the soil boring samples showed slightly elevated metals concentrations.

When metals concentrations in these samples were compared to IEPA's Tiered Approach to Cleanup Objectives Guidance Document (TACO), January, 1996, only lead and in one instance, cadmium, exceeded their respective Tier I TACO values. In soil boring SB-20A, from 1 to 3 feet bgs, cadmium was detected at a concentration of 110 mg/kg. The Tier I TACO value for construction worker for ingestion is 100 mg/kg. When this value is averaged out with two other samples collected from the same boring at depths of 3 to 5 and 7 to 9 feet bgs, the average is 41.9 mg/kg, which is significantly below the Tier I TACO value. No other cadmium soil sample exceeded 100 mg/kg.

The results for total lead in several samples exceed the Tier I TACO value of 400 mg/kg. Total lead concentrations in individual soil samples ranged up to 3,800 mg/kg (SB-14B from 3-5 feet bgs). On average the total lead in all soil samples taken at the Site is 578.54 mg/kg. Figure Five depicts the total lead concentration across the entire Site, displaying the highest concentration from each boring location.

In addition to the soil samples from the 28 borings, 14 perimeter/sediment samples were collected and submitted for the "long list" of metals from various locations along the perimeter of the property as depicted on Figure One. The laboratory results for these samples are summarized in Table 4. In general, elevated total metals were detected in some of the samples collected for laboratory analysis, but only one perimeter surface sample, PS-01, exceeded the Tier I TACO value for total lead with a concentration of 510 mg/kg (Figure Five).



Background soil samples were collected from borings SB-25 through SB-28, in areas where no slag was present (Figure Two). The highest background concentration for total lead was from SB-27A (1 to 3 feet bgs) at a concentration of 760 mg/kg. Analytical results for background soil samples are summarized on Table 3, and the complete laboratory report is included in Attachment D.

#### **4.1.5 Equipment Decontamination Procedures**

After each soil boring, all down-hole drilling equipment was thoroughly cleaned using a high-pressure steam-cleaner. Between each sample collection, the split-spoon sampler was scrubbed in a soap solution (Alconox® and water) and triple-rinsed with deionized water to prevent cross-contamination.

### **4.2 Ground Water Investigation**

On December 11, 1995, CEI inspected all previously installed ground water monitoring wells which remain on-site. In addition to the five ground water monitoring wells installed to perform post-closure monitoring of the RCRA Closure Unit, eleven other monitoring wells exist at the Site. Of these wells, nine were in good condition, and two had been damaged, preventing their use as monitoring points. Construction details and other information concerning existing monitoring wells, are presented in Table 6.

#### **4.2.1 Monitoring Well Development**

In order to insure accurate permeability testing, CEI developed the nine existing monitoring wells between December 18 and 20, 1995, utilizing an electric pump designed specifically for purging water from 2-inch wells. At least three well volumes of ground water were evacuated from each well during development. The five post-closure monitoring wells associated with the RCRA Closure Unit were not developed since the status of those wells was known as the result of their recent use in post-closure ground water monitoring.

#### **4.2.2 Ground Water Level Measurements**

The inner casings of all ground water monitoring wells were surveyed by Reiter & Associates to determine elevations. Ground water level measurements were obtained using an electronic sounding device which is accurate to the nearest hundredth of a foot. At each well, a Solinst® model 101 water level meter was lowered into the well



until the meter sounded. At that point, the depth to water was measured from the north side of the inner casing and recorded (Table 7). This process was performed twice for each well to ensure accurate measurements. Thirteen of the 16 ground water wells located on-site, were used to determine the ground water flow direction. Monitoring wells E and I were damaged and unusable for data collection. Old Well-3 was not used because anomalously high water levels were measured. With the information collected from the remaining 13 wells, depth to water and casing elevations, the ground water flow direction (Figure Four) and hydraulic gradient were calculated. The calculations used to determine the hydraulic gradient are included in section 4.2.3.

#### 4.2.3 Ground Water Flow

Ground water flow directions were calculated from information collected on March 25 and April 25, 1996. Ground water elevation contour maps are shown on Figure Four. The flow direction for the shallow ground water is to the northwest, towards the I & M Canal. The average hydraulic gradient was determined by plotting water level measurements on a base map and dividing the difference in hydraulic head between the distance of two points perpendicular to the flow direction. An average horizontal ground water gradient of 0.027 foot per foot (ft/ft) was calculated for the Site.

#### 4.2.4 Hydraulic Conductivity

On December 20, 1995 and January 16, 1996, "rising-head slug test method" permeability tests", were performed on all fourteen functional ground water monitoring wells to evaluate the hydraulic conductivity (K) in the upper-most aquifer beneath the Site. (Bouwer, H. and Rice, R.C., 1976; and Bouwer, H., 1988).

The slug test method involves the instantaneous withdraw of a volume of water from a well, which partially penetrates an unconfined aquifer, and measurement of the rate of ground water recharge into the well. To perform the test in the field, a 1.9 inch diameter, 36 inch long stainless steel bailer was lowered into each well. After allowing the water to equilibrate in the well, the bailer was quickly removed and the ground water recharge rate was recorded using a Hermit 100-C Data Logger which recorded measurements at a rate of three per second. The data logger records the height of the water column using a pressure-sensitive transducer probe. The drawdown verses time data was then interpreted using the AQTESOLV® computer software program by Geraghty & Miller, which incorporates the Bouwer and Rice method of evaluating hydraulic conductivity from slug test data. The hydraulic conductivity for each monitoring well is presented on Table 7. The range of



determined  $K_h$ -values for the Site is  $1.06 \times 10^{-3}$  cm/sec to  $6.6 \times 10^{-6}$  cm/sec with a mean of  $3.49 \times 10^{-4}$  cm/sec. Data collected from the data logger and the time versus drawdown graphs are included in Attachment C.

#### 4.2.5 Ground Water Sampling and Analytical Methods

Ground water samples were collected from each of the fourteen monitoring wells using a low-flow ground water sampling technique described in the RFI Work Plan. The monitoring wells were sampled on January 16 - 17, 1996. The five post-closure monitoring wells were sampled on January 18, 1996 as part of the regular post-closure quarterly ground water monitoring program. All ground water samples were submitted to Great Lakes Analytical laboratory for analysis of total and dissolved metals using USEPA method 3015/ and 6000 and 7000 series analytical protocols as specified in USEPA SW-846 Test Methods for Evaluating Solid Waste, (Third Edition).

The well sampling procedures were as follows:

- 1.) The Solinst® model 101 electric water level meter probe was carefully lowered into the well to minimize disturbance of the water column. When the meter sounded, the static water level was measured from the north side of the inner well casing and recorded to 0.01 feet. This process was performed twice for each monitoring well for accuracy purposes.
- 2.) The required length of Teflon tubing was calculated, measured and marked for attachment to a peristaltic pump, so that the intake was located at the mid-point of the saturated screen interval. A minimal length of tubing was used to minimize the temperature change from the collection point to the discharge point.
- 3.) Tubing was inserted slowly to the measured depth and secured to the well casing to minimize disturbance to the water column. The tubing was dedicated to each well, secured to the cap, and left inside the protective casing to minimize disturbance to the water column during subsequent sampling events.
- 4.) Monitoring instruments were calibrated and assembled, and the tubing was connected to a peristaltic pump and a flow-through chamber in which the instrument probes were located.





- 5.) The water level was measured and recorded on a data sheet and compared to the previous static water level.
- 6.) The pump was started at the minimum continuous flow rate attainable by the pump, between 0.02 to 0.05 liters per minute. Start times and flow times were recorded. The flow rate was adjusted to a rate that minimized drawdown in the well. A full round of measurements were recorded every five minutes, including time, temperature, specific conductance, pH, turbidity, dissolved oxygen and water level.
- 7.) All data and changes were recorded on the data sheets and flow rates were adjusted to provide for minimal drawdown. If drawdown increased significantly, the wells were pumped intermittently until parameters stabilized.
- 8.) Once field parameters stabilize, ground water samples were collected. The stabilization was defined by readings within a range of ten percent for three consecutive five minute intervals, or until three well volumes had been purged and turbidity levels below 20 NTUs were achieved.
- 9.) Once stabilization was achieved, the flow-through chamber was disconnected and the samples were collected directly from the tubing.
- 10.) The samples were maintained at a temperature of approximately 4 degrees C in an insulated container containing ice. Upon completion of sampling, the collected samples were transferred to Great Lakes Analytical for laboratory analysis. The samples were maintained under strict standard chain-of-custody procedures/documents.

#### 4.2.6 Ground Water Results

Analytical results from the ground water samples showed all metals concentrations below laboratory detection limits. A summary of the laboratory results is included in Table 6 and the complete laboratory report is included in Attachment D.

#### 4.2.7 Surface Water Sampling

Surface water samples were collected at six locations (WS-2, WS-5, WS-7, WS-8, WS-9, and WS-10 - Table 5) (Figure One). The samples were collected by slowly lowering laboratory supplied new containers into the water and allowing them to fill.



When the containers were filled, they were immediately capped, labeled and placed into a cooler. The samples were maintained at a temperature of approximately 4 degrees C until they were transferred to the laboratory for analysis. The samples were analyzed for the "long list" of metals and the results of the surface water sampling are summarized on Table 5 and the complete laboratory report is included in Attachment D.

Sample WS-2, collected from the ditch along the southern property boundary, had a total lead concentration of 0.036 mg/L. The samples collected from the I & M Canal (WS-8, WS-9, and WS-10) had detectable concentrations of total chromium (WS-9, 0.039 mg/L) and lead (WS-8 - 0.007 mg/L, WS-9 - 0.037 mg/L, and WS-10 - 0.013 mg/L). All samples were analyzed without filtration and therefore contained suspended solids. On the day the water samples were collected from the I & M Canal, the Canal water was sediment-laden as the result of winds gusting up to 45 miles per hour, and samples collected were noticeably turbid.

## **5.0 EVALUATION OF MONITORING WELL NETWORK**

### **5.1 Description of Monitoring Well Network**

All 14 functional ground water monitoring wells at the Site are screened within the bedrock. Three are up-gradient wells (OW-4, MW-D1, and MW-D5). Six are down-gradient wells (OW-1, OW-2, OW-3, WELL-B, WELL-C, and WELL-D). The remaining wells (MW-D2, MW-D3, MW-D4, WELL-J, and WELL-K) are mid-gradient in respect to the entire Site (See, Table 7).

### **5.2 Site Hydrogeology**

The Site hydrology has been thoroughly characterized. Ground water occurs at between 2 and 13 feet bgs, and for most of the season, the water table is below the bedrock surface. The ground water flow direction is northwest, towards the I & M Canal, where discharge as base flow to the Canal most likely occurs (Figure Four).

Data collected from the in-situ permeability tests establishes hydraulic conductivity ranges from  $1.06 \times 10^{-3}$  cm/sec to  $6.6 \times 10^{-6}$  cm/sec with a mean of  $3.49 \times 10^{-4}$  cm/sec.



### **5.3 Additional Monitoring Wells**

Because the ground water has been adequately characterized, CEI does not recommend installation of any additional monitoring wells.

### **5.4 Surface Water Bodies**

Very little precipitation flows off the Site as surface runoff because of the high permeability of the Site surface materials. Two intermittent drainage courses for surface runoff exist. One is a drainage ditch that runs north / south across the western portion of the Site. Only during periods of precipitation was the drainage ditch observed to contain water. In January 1996, during RFI Phase I activities, CEI observed water flowing to the north into the I & M Canal, from the unpaved road which bisects the Site from west to east. Water south of the unpaved road, was flowing to the south, into the drainage ditch which runs between the railroad tracks and the Site. The surficial hydraulic divide was in the vicinity where the unpaved road on the Site crossed the ditch.

A second drainage ditch runs from the slag processing area to the I & M Canal (Figure One). The slag processing area is directly on the bedrock surface and receives runoff from precipitation and seepage from the surrounding elevated slag fill material.

During the RFI field activities, CEI collected water samples from run-off points shown on Figure One. A summary of the laboratory results for the surface water samples is included in Table Five. Section 4.2.7 presents the analytical results for these surface water samples.

## **6.0 POTENTIAL RECEPTORS**

### **6.1 Ground Water Receptors**

Existing well information was obtained by NUS from the Illinois State Water Survey. That information shows nine private ground water supply wells located within 1,500 feet of the Site. Six of these are industrial and commercial supply wells. The remaining three are domestic supply wells located to the south (hydraulically up-gradient). The industrial and commercial water supply wells are all screened at depths of more than 1000 feet bgs, and are unlikely to be impacted by ground water in the uppermost aquifer which has contacted Site materials. No municipal water



supply wells are located within one half-mile of the Site.

## **6.2 Surface Water Receptors**

Most precipitation falling or running onto the Site infiltrates the permeable surficial materials and exits the Site through the ground water pathway. The ground water flow for the Site is to the northwest towards the I & M Canal where it discharges as base flow. The small amount of surface water which does run-off the Site likewise drains to the I&M Canal.

## **6.3 Site Access**

Access to the Site is limited due to a chain link fence along the western property boundary. To the north of the Site, access is limited by the I & M Canal. To the south and east of the Site, no barriers exist, but due to the topography, access to the Site is difficult. The RCRA Closure Unit is surrounded by a chain-link fence which remains locked at all times to prevent unauthorized access.

## **6.4 Identification of Potential Ecological Receptors**

CEI contacted the Illinois Department of Natural Resources (DNR) and requested a listing of "potential endangered species" in the vicinity of the Site. According to the DNR, there were no species on the endangered species list in the immediate vicinity of the Site.

# **7.0 SUMMARY AND CONCLUSIONS**

The Phase I RFI field activities confirm that no additional EAF dust deposits remain on-site. All EAF dust is contained within the existing RCRA Closure Unit. Ground water monitoring done during the RFI reports all metals of concern in ground water at below detection levels, despite the presence of substantial amounts of EAF dust on the Site for many years prior to RCRA, and despite very permeable subsurface conditions. These results are consistent with earlier ground water monitoring, and support NUS' conclusion that geochemical conditions in the subsurface and in ground water, primarily related to naturally alkaline pH and abundant carbonate and bicarbonate ions from the dolomite, will not allow metals to exist in solution. (See, January 1985 Final Closure Plan, §2.3.3.).

Of the metals analyzed from the soil/sediment materials, only lead was detected at



several grid-intersect boring locations in concentrations that exceed the Tier I TACO value (400 mg/kg) for a construction worker for industrial / commercial use property. The average total lead concentrations in soils/sediments across the Site (578.54 mg/kg) is only slightly above the Tier I TACO value for commercial/industrial use. Lead in soils/sediments should also be evaluated in light of the fact that the highest background (off-site) lead concentration was 760 mg/kg, and that the Site is located in a heavily industrialized area with limited access. Further, given that the Site "soils" are in fact furnace slag, it is unlikely that the lead levels reported by the "total metals" analysis are even remotely related to the concentrations of lead which would be biologically or environmentally available from these materials. All metals present in the slag exist tightly bound in a fused vitreous substrate, and are digested (*i.e.*, become soluble) during the "total metals" analysis only under the extremely aggressive digestion conditions which that protocol employs. For these reasons CEI believes that Site "soils" pose no threat to human health or to the environment, and require no corrective action.

While the RFI results show total lead in "soils" to be elevated for the Site in reference to the Tier I TACO objectives, lead in ground water was below detection levels. Because most of the ground water monitoring wells have been emplaced since the 1980's, and have consistently reported very low or zero concentrations of metals of concern (including lead) in ground water, CEI believes that no further ground water monitoring is necessary for the entire Site. Future ground water monitoring should be limited to the RCRA Closure Unit. All ground water monitoring wells except the RCRA post-closure wells, should be removed or abandoned in accordance with applicable law.

To date, the cost for the RCRA Facility Investigation Phase I activities is approximately \$ 145,000 with a projected total cost for this phase estimated at \$ 155,000.



## **8.0 REFERENCES**

- Bouwer, H., 1988. The Bouwer and Rice Slug Test - An Update, Groundwater, Vol. 27, No. 3, pp. 304-309.
- Bouwer, H. and Rice, R.C., 1976. Slug Test for Determining Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells, Water Resources Research, Vol. 12, No. 3, pp. 425-428.
- FEMA, 1981. Flood Insurance Rate Map, Cook County, Illinois. Panel 165 of 245, Community-panel # 170054 0165 B. Effective date April 15, 1981.
- FEMA, 1981. Flood Insurance Rate Map, Cook County, Illinois. Panel 190 of 245, Community-panel # 170054 0190 B. Effective date April 15, 1981.
- FEMA, 1982. Flood Insurance Rate Map, County of Will, Illinois. Panel 80 of 350, Community-panel # 170695 0080 B. Effective date April 15, 1982.
- Halliburton NUS Corporation, 1993. Summary of Well Installation Activity. Dudek Site, Waste Storage Area, Lemont, Illinois, Will County Illinois. EPA ID NO. IL990785453. May 1993.
- NUS Corporation, 1985. Final Closure Plan for Waste Storage Area. EPA ID NO. IL990785453, NUS Project Number U495. January 1985.
- NUS Corporation, 1986. Amendment to Closure Plan for Waste Storage Area. EPA ID NO. IL990785453, NUS Project Number U495. January 1985, Amended March 1986.
- NUS Corporation, 1994. Draft Work Plan for Phase I RCRA Facility Investigation Volumes 1 and 2. EPA ID NO. ILD990785453. September 1996.
- U.S. Environmental Protection Agency, 1986. RCRA Facility Assessment Guidance. Office of Solid Waste. Washington, DC.
- USGS. 1980. Romeoville, Illinois 7.5 Minute Quadrangle Map. DMA 3367, NE-Series U863. 41088-F1-TF-024. Photo revised 1973, 1978, and 1980.
- Willman, H.B., 1971, Summary of the Geology of the Chicago Area, Illinois Geological Survey Circular 460, 77 p.

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**TABLE 1**  
**SOIL BORING AND SAMPLE DATA**

Robertson-Ceco  
Lemont, Illinois

Soil Boring Number	Total Depth (feet)	Sample Interval	ANALYSIS	
			Long List of Metals	Short List of Metals
SB-01	12	A(1-3)	X	
		B(3-5)		X
		C(5-7)		X
SB-02	12	A(1-3)	X	
		B(3-5)		X
		D(7-9)		X
SB-03	18.5	A(1-3)	X	X
		B(3-5)		X
		C(5-7)		
SB-04	16.75	B(3-5)	X	X
		C(5-7)		
		F(11-13)		X
SB-05	15	D(7-9)	X	X
		F(11-13)		X
		G(13-15)		
SB-06	3.5	A(1-3)	X	X
		B(3-5)		
SB-07	13	A(1-3)	X	X
		B(3-5)		
		C(5-7)		X
SB-08	12.5	C(5-7)	X	X
		D(7-9)		X
		F(11-13)		
SB-09	15	C(5-7)	X	X
		D(7-9)		X
		E(9-11)		
SB-10	14.5	B(3-5)	X	
		DUP-B(3-5)	X	
		C(5-7)		X
		DUP-C(5-7)		X
		E(9-11)		X
		DUP-E(9-11)		X
SB-11	13	A(1-3)		X

**TABLE 1 (continued)**  
**SOIL BORING AND SAMPLE DATA**

Robertson-Ceco  
Lemont, Illinois

Soil Boring Number	Total Depth (feet)	Sample Interval	ANALYSIS	
			Long List of Metals	Short List of Metals
SB-11	13	C(5-7)	X	
		D(7-9)		X
SB-12	21	A(1-3)	X	X
		B(3-5)		
		C(5-7)		X
SB-13	12.75	B(3-5)	X	X
		C(5-7)		
		D(7-9)		X
SB-14	13	B(3-5)	X	X
		C(5-7)		X
		D(7-9)		
SB-15	12	A(1-3)	X	X
		DUP-A(1-3)		X
		C(5-7)		
		DUP-C(5-7)		
		D(7-9)		X
		DUP-D(7-9)		X
SB-16	13.5	A(1-3)	X	X
		B(3-5)		
		C(5-7)		X
SB-17	5	A(1-3)	X	X
		B(3-5)		
SB-18	5.75	A(1-3)	X	
		B(3-5)		X
SB-19	9	A(1-3)	X	
		B(3-5)		X
		C(5-7)		X
SB-20	12	A(1-3)	X	
		B(3-5)		X
		D(7-9)		X
SB-21	12.5	A(1-3)	X	X
		B(3-5)		

**TABLE 1 (continued)**  
**SOIL BORING AND SAMPLE DATA**

Robertson-Ceco  
Lemont, Illinois

Soil Boring Number	Total Depth (feet)	Sample Interval	ANALYSIS	
			Long List of Metals	Short List of Metals
SB-21	12.5	C(3-5)		X
SB-22	9.5	A(1-3)	X	X
		DUP-A(1-3)		X
		B(3-5)		
		DUP-B(3-5)		
		D(7-9)		X
		DUP-D(7-9)		X
SB-23	9	A(1-3)	X	
		B(3-5)		X
		C(5-7)		X
SB-24	9	A(1-3)	X	X
		DUP-A(1-3)		X
		B(3-5)		X
		DUP-B(3-5)		X
		C(5-7)		
		DUP-C(5-7)		
SB-25	5.5	A(1-3)	X	
		B(3-5)		X
		C(5-5.5)	X	
SB-26	5.5	A(1-3)	X	
		B(3-5)		X
		C(5-5.5)		X
SB-27	16.5	A(1-3)	X	X
		B(3-5)		
		C(5-7)		X
SB-28	16.5	A(1-3)	X	
		B(3-5)		X
		D(7-9)		X

**Long List of Metals:** Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

**Short List of Metals:** Cadmium, Hexavalent Chromium, and Lead

**TABLE 2**  
**SUMMARY OF TOTAL METALS IN SOIL BORING SAMPLES**  
 Robertson-Ceco Corporation  
 Lemont, Illinois

Sample No./Depth (ft)	Metals (mg/kg)														
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SB-01A (1-3)	ND	6	310	0.62	3.7	1,300	NA	220	0.16	36	ND	ND	ND	210	580
SB-01B (3-5)	NA	NA	NA	NA	2.4	NA	ND	95	NA	NA	NA	NA	NA	NA	NA
SB-01C (5-7)	NA	NA	NA	NA	14	NA	ND	330	NA	NA	NA	NA	NA	NA	NA
SB-02A (1-3)	ND	ND	390	ND	1.4	2,300	NA	48	ND	34	ND	ND	ND	330	1,400
SB-02B (3-5)	NA	NA	NA	NA	0.96	NA	ND	42	NA	NA	NA	NA	NA	NA	NA
SB-02D (7-9)	NA	NA	NA	NA	ND	NA	ND	19	NA	NA	NA	NA	NA	NA	NA
SB-03A (1-3)	NA	NA	NA	NA	36	NA	ND	1,200	NA	NA	NA	NA	NA	NA	NA
SB-03B (3-5)	NA	NA	NA	NA	11	NA	ND	340	NA	NA	NA	NA	NA	NA	NA
SB-03C (5-7)	ND	3.6	690	1	7.2	1,300	NA	200	ND	34	ND	ND	ND	190	1,400
SB-04B (3-5)	NA	NA	NA	NA	7.9	NA	ND	170	NA	NA	NA	NA	NA	NA	NA
SB-04C (5-7)	ND	4.4	300	ND	1.7	2,200	NA	84	ND	18	ND	ND	ND	94	590
SB-04F (11-13)	NA	NA	NA	NA	1.8	NA	3.8	61	NA	NA	NA	NA	NA	NA	NA
SB-05D (7-9)	NA	NA	NA	NA	53	NA	ND	2,800	NA	NA	NA	NA	NA	NA	NA
SB-05F (11-13)	NA	NA	NA	NA	17	NA	ND	990	NA	NA	NA	NA	NA	NA	NA
SB-05G (13-15)	ND	5.9	170	0.63	10	51	NA	430	0.19	27	ND	ND	ND	25	1,600
SB-06A (1-3)	NA	NA	NA	NA	4.5	NA	2.2	1,200	NA	NA	NA	NA	NA	NA	NA
SB-06B (3-5)	ND	5.7	460	ND	6.7	680	NA	950	0.29	44	ND	ND	ND	330	1,200
SB-07A (1-3)	NA	NA	NA	NA	19	NA	ND	1,100	NA	NA	NA	NA	NA	NA	NA
SB-07B (3-5)	ND	19	310	ND	9.5	110	NA	1,100	0.73	130	ND	ND	ND	26	1,700
SB-07C (5-7)	NA	NA	NA	NA	9	NA	ND	850	NA	NA	NA	NA	NA	NA	NA
SB-08C (5-7)	NA	NA	NA	NA	2.1	NA	ND	110	NA	NA	NA	NA	NA	NA	NA
SB-08D (7-9)	NA	NA	NA	NA	5	NA	ND	340	NA	NA	NA	NA	NA	NA	NA
SB-08F (11-13)	ND	17	280	ND	10	72	NA	1,200	0.75	81	ND	ND	ND	18	1,900
SB-09C (5-7)	NA	NA	NA	NA	0.89	NA	3.7	89	NA	NA	NA	NA	NA	NA	NA

**TABLE 2 (continued)**  
**SUMMARY OF TOTAL METALS IN SOIL BORING SAMPLES**

Robertson-Ceco Corporation  
Lemont, Illinois

Sample No./Depth (ft)	Metals (mg/kg)														
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SB-09D (7-9)	NA	NA	NA	NA	4.3	NA	ND	380	NA	NA	NA	NA	NA	NA	NA
SB-09E (9-11)	ND	9.3	600	ND	11	450	NA	2,200	1.9	81	ND	ND	ND	180	4,400
SB-10B (3-5)	ND	9.3	280	ND	80	1,100	NA	1,900	ND	43	ND	2.6	ND	180	9,200
DUP-10B (3-5)(1B)	ND	8.1	180	ND	56	1,000	NA	1,200	ND	55	ND	4	ND	250	6,600
SB-10C (5-7)	NA	NA	NA	NA	60	NA	8.1	1,900	NA	NA	NA	NA	NA	NA	NA
DUP-10C (5-7)(1C)	NA	NA	NA	NA	40	NA	5.8	1,200	NA	NA	NA	NA	NA	NA	NA
SB-10E (9-11)	NA	NA	NA	NA	13	NA	ND	320	NA	NA	NA	NA	NA	NA	NA
DUP-10E (9-11)(1E)	NA	NA	NA	NA	30	NA	ND	450	NA	NA	NA	NA	NA	NA	NA
SB-11A (1-3)	NA	NA	NA	NA	3.3	NA	ND	130	NA	NA	NA	NA	NA	NA	NA
SB-11C (5-7)	ND	19	120	ND	2.3	1,400	NA	73	ND	110	1	3.4	ND	450	260
SB-11D (7-9)	NA	NA	NA	NA	0.66	NA	ND	26	NA	NA	NA	NA	NA	NA	NA
SB-12A (1-3)	NA	NA	NA	NA	3.3	NA	ND	320	NA	NA	NA	NA	NA	NA	NA
SB-12B (3-5)	ND	7.9	140	ND	19	770	NA	730	ND	28	ND	ND	ND	170	2,500
SB-12C (5-7)	NA	NA	NA	NA	4.8	NA	ND	160	NA	NA	NA	NA	NA	NA	NA
SB-13B (3-5)	NA	NA	NA	NA	0.66	NA	6.3	13	NA	NA	NA	NA	NA	NA	NA
SB-13C (5-7)	ND	6.8	270	ND	2.1	1,400	NA	27	ND	28	ND	2.6	ND	210	200
SB-13D (7-9)	NA	NA	NA	NA	2.4	NA	4.4	81	NA	NA	NA	NA	NA	NA	NA
SB-14B (3-5)	NA	NA	NA	NA	64	NA	ND	3,800	NA	NA	NA	NA	NA	NA	NA
SB-14C (5-7)	NA	NA	NA	NA	2.4	NA	ND	140	NA	NA	NA	NA	NA	NA	NA
SB-14D (7-9)	ND	7	270	ND	47	880	NA	2,400	0.61	46	3.6	5.3	ND	150	8,700
SB-15A (1-3)	NA	NA	NA	NA	6.4	NA	4.5	230	NA	NA	NA	NA	NA	NA	NA

**Table 2 (continued)**  
**SUMMARY OF TOTAL METALS IN SOIL BORING SAMPLES**

Robertson-Ceco Corporation  
Lemont, Illinois

Sample/Depth (feet)	Metals (mg/kg)														
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
DUP-15A (1-3)(2A)	NA	NA	NA	NA	4.8	NA	ND	180	NA	NA	NA	NA	NA	NA	NA
SB-15C (5-7)	ND	ND	400	ND	0.65	1,900	NA	34	ND	37	6.5	ND	ND	230	210
Dup-15C (5-7)(2C)	ND	3.4	470	0.63	0.9	1,900	NA	38	ND	52	3.8	ND	ND	270	260
SB-15D (7-9)	NA	NA	NA	NA	0.97	NA	ND	45	NA	NA	NA	NA	NA	NA	NA
DUP-15D (7-9)(2D)	NA	NA	NA	NA	ND	NA	ND	28	NA	NA	NA	NA	NA	NA	NA
SB-16A (1-3)	NA	NA	NA	NA	1.8	NA	ND	97	NA	NA	NA	NA	NA	NA	NA
SB-16B (3-5)	ND	ND	330	3.4	2.7	1,000	NA	89	ND	33	ND	ND	ND	170	790
SB-16C (5-7)	NA	NA	NA	NA	0.94	NA	ND	140	NA	NA	NA	NA	NA	NA	NA
SB-17A (1-3)	NA	NA	NA	NA	6.8	NA	ND	780	NA	NA	NA	NA	NA	NA	NA
SB-17B (3-5)	ND	5.6	25	ND	ND	12	NA	30	ND	9.8	ND	ND	ND	11	57
SB-18A (1-3)	ND	ND	530	ND	3.8	230	NA	570	0.55	24	1.3	ND	ND	180	690
SB-18B (3-5)	NA	NA	NA	NA	4	NA	ND	480	NA	NA	NA	NA	NA	NA	NA
SB-19A (1-3)	ND	ND	260	ND	4.6	1,500	NA	380	ND	62	0.78	ND	ND	180	900
SB-19B (3-5)	NA	NA	NA	NA	4.4	NA	ND	390	NA	NA	NA	NA	NA	NA	NA
SB-19C (5-7)	NA	NA	NA	NA	1.4	NA	ND	110	NA	NA	NA	NA	NA	NA	NA
SB-20A (1-3)	ND	6.7	210	0.63	1.10	880	NA	3,000	0.56	45	2.3	ND	ND	200	13,000
SB-20B (3-5)	NA	NA	NA	NA	13	NA	ND	390	NA	NA	NA	NA	NA	NA	NA
SB-20D (7-9)	NA	NA	NA	NA	2.7	NA	ND	200	NA	NA	NA	NA	NA	NA	NA
SB-21A (1-3)	NA	NA	NA	NA	12	NA	ND	380	NA	NA	NA	NA	NA	NA	NA
SB-21B (3-5)	ND	4.4	70	ND	3.7	94	NA	160	ND	27	ND	ND	ND	35	720
SB-21C (5-7)	NA	NA	NA	NA	3.1	NA	ND	130	NA	NA	NA	NA	NA	NA	NA
SB-22A (1-3)	NA	NA	NA	NA	12	NA	ND	1,500	NA	NA	NA	NA	NA	NA	NA
DUP-22A (1-3)(3A)	NA	NA	NA	NA	13	NA	ND	1,700	NA	NA	NA	NA	NA	NA	NA

**Table 2 (continued)**

**SUMMARY OF TOTAL METALS IN SOIL BORING SAMPLES**

Robertson-Ceco Corporation  
Lemont, Illinois

Sample/Depth (ft)	Metals (mg/kg)														
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SB-22B (3-5)	ND	3.3	110	0.71	1.6	61	NA	67	ND	22	ND	ND	ND	41	190
Dup-22B (3-5)(3B)	ND	17	340	ND	5.4	740	NA	440	0.16	100	0.68	ND	ND	250	1,100
SB-22D (7-9)	NA	NA	NA	NA	3.3	NA	ND	210	NA	NA	NA	NA	NA	NA	NA
DUP-22D (7-9)(3D)	NA	NA	NA	NA	0.99	NA	ND	57	NA	NA	NA	NA	NA	NA	NA
SB-23A (1-3)	ND	5.5	320	ND	7.9	440	NA	530	1.1	33	0.64	ND	ND	250	1,500
SB-23B (3-5)	NA	NA	NA	NA	39	NA	ND	1,300	NA	NA	NA	NA	NA	NA	NA
SB-23C (5-7)	NA	NA	NA	NA	37	NA	ND	1,300	NA	NA	NA	NA	NA	NA	NA
SB-24A (1-3)	NA	NA	NA	NA	3.7	NA	ND	220	NA	NA	NA	NA	NA	NA	NA
DUP-24A (1-3)(4A)	NA	NA	NA	NA	0.74	NA	ND	17	NA	NA	NA	NA	NA	NA	NA
SB-24B (3-5)	NA	NA	NA	NA	1.4	NA	ND	66	NA	NA	NA	NA	NA	NA	NA
DUP-24B (3-5)(4B)	NA	NA	NA	NA	1.5	NA	ND	84	NA	NA	NA	NA	NA	NA	NA
SB-24C (5-7)	ND	ND	290	0.94	1.2	860	NA	53	ND	22	0.68	ND	ND	300	220
Dup-24C (5-7)(4C)	ND	ND	320	0.64	0.52	440	NA	19	ND	16	0.7	ND	ND	200	94
TACO-CWIC Values	82	46	14,000	19	100	4,100	4,100	400	61	4,100	1,000	1,000	160	1,400	61,000

All concentrations are measured in parts per million (ppm) or milligrams per kilogram (mg/kg)

fbgs = feet below ground surface

ND = None Detected

Shaded areas indicate contaminant exceeding TACO values for Commercial/Industrial Properties for construction worker inhalation concentration

TACO-Values = Construction Worker Ingestion Concentrations for Industrial/Commercial Properties

from IEPA's Tiered Approach to Cleanup Objectives (TACO) Guidance Document - January 1996

**Table 3**

**SUMMARY OF TOTAL METALS IN  
BACKGROUND SOIL BORINGS**

Robertson-Ceco Corporation  
Lemont, Illinois

Sample No./Depth (ftgs)	Metals (mg/kg)														
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Hexavalent Chromium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SB-25A (1-3)	ND	40	49	ND	ND	NA	9.3	19	0.048	9.1	ND	ND	ND	11	76
SB-25B (3-5)	NA	NA	NA	NA	ND	ND	NA	11	NA	NA	NA	NA	NA	NA	NA
SB-25C (5-5.5)	NA	NA	NA	NA	0.63	ND	NA	12	NA	NA	NA	NA	NA	NA	NA
SB-26A (1-3)	ND	36	60	1	1.3	NA	7.2	71	0.31	9.9	ND	ND	ND	9.3	270
SB-26B (3-5)	NA	NA	NA	NA	0.87	ND	NA	40	NA	NA	NA	NA	NA	NA	NA
SB-26C (5-5.5)	NA	NA	NA	NA	0.8	ND	NA	44	NA	NA	NA	NA	NA	NA	NA
SB-27A (1-3)	NA	NA	NA	NA	8.2	ND	NA	760	NA	NA	NA	NA	NA	NA	NA
SB-27B (3-5)	ND	4.2	200	0.68	2.9	NA	450	210	ND	68	ND	ND	ND	79	480
SB-27C (5-7)	NA	NA	NA	NA	2.9	ND	NA	190	NA	NA	NA	NA	NA	NA	NA
SB-28A (1-3)	ND	4.2	280	0.57	3.7	NA	410	150	ND	24	ND	ND	ND	89	820
SB-28B (3-5)	NA	NA	NA	NA	0.57	ND	NA	21	NA	NA	NA	NA	NA	NA	NA
SB-28D (7-9)	NA	NA	NA	NA	0.7	ND	NA	35	NA	NA	NA	NA	NA	NA	NA
TACO-Values	82	46	14,000	19	100	4,100	4,100	400	61	4,100	1,000	1,000	160	1,400	61,000

All concentrations are measured in parts per million (ppm) or milligrams per kilogram (mg/kg)

fbgs = feet below ground surface

ND = Compound was not detected at laboratory detection limit

NA = Not Analyzed

TACO-Values = For Construction Worker Ingestion Concentrations for Industrial/Commercial Properties  
from IEPA's Tiered Approach to Cleanup (TACO) Guidance Document - January 1996



**TABLE 4**  
**SUMMARY OF TOTAL METALS IN**  
**SURFACE PERIMETER AND SEDIMENT SAMPLES**

Robertson-Ceco Corporation  
Lemont, Illinois

Sample Number	Metals (mg/kg)													
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
PS-01	ND	4.5	200	ND	5.1	790	510	0.18	27	ND	ND	ND	140	930
PS-02	ND	25	37	ND	2	150	160	ND	190	ND	ND	ND	35	410
PS-03	ND	4.6	160	ND	3.4	160	100	0.33	24	ND	ND	ND	57	670
PS-04	ND	ND	60	ND	1.6	56	50	ND	9.8	ND	ND	ND	28	260
SS-01	ND	5.8	47	ND	1.5	19	64	0.07	8.8	ND	ND	ND	13	260
SS-02	ND	ND	ND	ND	0.97	13	160	ND	3.3	ND	ND	ND	6.2	140
SS-03	ND	5.3	40	ND	2.5	23	150	0.17	9.7	ND	ND	ND	15	370
SS-04	ND	14	72	ND	3	22	260	4.5	13	ND	ND	ND	18	1500
SS-05	ND	9.1	35	ND	ND	12	22	0.048	14	ND	ND	ND	20	110
SS-06	ND	34	82	0.57	1.8	58	88	ND	20	ND	ND	ND	34	440
SS-07	ND	3.6	83	ND	0.53	17	26	ND	12	ND	ND	ND	22	140
SS-08	ND	3.4	ND	ND	ND	11	13	ND	8.8	ND	ND	ND	14	66
SS-09	ND	2.8	130	ND	4.6	170	170	0.3	18	ND	ND	ND	47	1,000
SS-10	ND	2.7	ND	ND	0.86	7.4	57	0.14	6.8	ND	ND	ND	5.4	95
TACO-Values	82	46	14,000	19	100	4,100	400	61	4,100	1,000	1,000	160	1,400	61,000

PS = Perimeter surface sediment sample

SS = Surface sediment sample

Total metals analysis utilizing USEPA Methods 3015/6000 or 7000

All concentrations are measured in parts per million (ppm) or milligrams per kilogram (mg/kg)

fbgs = feet below ground surface

ND = Compound was not detected at laboratory detection limit

TACO-Values = Construction Worker Ingestion Concentrations for Industrial/Commercial Properties from

IEPA's Tiered Approach to Cleanup Objectives (TACO) Guidance Document - January 1996

<b>TABLE 5</b> <b>SUMMARY OF TOTAL METALS</b> <b>IN SURFACE WATER SAMPLES</b> Robertson-Ceco Corporation Lemont, Illinois												
Sample Number	Metals (mg/L)											
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium
WS-2	ND	ND	ND	ND	ND	ND	0.036	ND	ND	ND	ND	ND
WS-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS-7	ND	ND	ND	ND	ND	ND	0.0057	ND	ND	ND	ND	ND
WS-8	ND	ND	ND	ND	ND	ND	0.007	ND	ND	ND	ND	ND
WS-9	ND	ND	ND	ND	ND	0.039	0.037	ND	ND	ND	ND	0.17
WS-10	ND	ND	ND	ND	ND	ND	0.013	ND	ND	ND	ND	ND

Total metals analysis utilizing USEPA Methods 3015/6000 or 7000  
 All concentrations are measured in parts per million (ppm) or milligrams per liter (mg/L)  
 ND = Concentration of compound was not detected at laboratory detection limit

**TABLE 6**  
**SUMMARY OF TOTAL METALS IN**  
**GROUND WATER SAMPLES**

Robertson-Ceco Corporation  
Lemont, Illinois

Metals (mg/kg)															
Sample Number	Antimony		Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
OW-1	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
OW-2	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
OW-3	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
OW-5	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WELL B	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WELL C	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WELL D	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WELL J	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WELL K	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-D1	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-D2	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-D3	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-D4	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-D5	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
L.D.L	0.10	0.05	0.05	0.05	0.01	0.01	0.01	0.005	0.002	0.050	0.010	0.050	0.200	0.100	0.050

PS = Perimeter surface sediment sample

SS = Surface sediment sample

Total metals analysis utilizing USEPA Methods 3015/6000 or 7000

All concentrations are measured in parts per million (ppm) or milligrams per kilogram (mg/kg)

fbgs = feet below ground surface

ND = Compound was not detected at laboratory detection limit

TACO-Values =Construction Worker Ingestion Concentrations for Industrial/Commercial Properties from

IEPA's Tiered Approach to Cleanup Objectives (TACO) Guidance Document - January 1996

**TABLE 7**  
**MONITORING WELL CONSTRUCTION DETAILS**

Robertson-Ceco Corporation  
Lemont, Illinois

Well Number	Installed By	Date Installed	Well Material	Total Depth (feet bgs)	Screen Interval (feet bgs)	Formation Screened	Depth to Bedrock (feet bgs)	Relative Ground Water Location	Hydraulic Conductivity (cm/sec)
OW-1	Eldredge	4/4/80	4" PVC	55.3	16.8 - 55.3	Bedrock	13.8	DG	$4.95 \times 10^{-5}$
OW-2	Eldredge	4/4/80	4" PVC	54.7	16.7 - 54.7	Bedrock	13.7	DG	$2.55 \times 10^{-3}$
OW-3	Eldredge	4/4/80	4" PVC	55.5	8.5 - 55.5	Bedrock	5.5	DG	$1.06 \times 10^{-3}$
OW-4	Eldredge	4/4/80	4" PVC	54.3	14.3 - 54.3	Bedrock	11.3	UG	$1.07 \times 10^{-3}$
B	NUS	8/11/84	2" PVC	24.5	19.5 - 24.5	Bedrock	5.0	DG	$5.9 \times 10^{-6}$
C	NUS	8/11/84	2" PVC	23.5	18.5 - 23.5	Bedrock	9.0	DG	$1.68 \times 10^{-5}$
D	NUS	8/10/84	2" PVC	24.0	19.0 - 24.0	Bedrock	4.0	DG	$6.6 \times 10^{-6}$
E	NUS	8/8/84	2" PVC	24.5	19.5-24.5	Bedrock	14.0	MG	NA
I	NUS	8/9/84	2" PVC	20.0	15.0-20.0	Bedrock	0.0	MG	NA
J	NUS	8/10/84	2" PVC	25.0	20.0 - 25.0	Bedrock	13.0	MG	$5.7 \times 10^{-6}$
K	NUS	8/9/84	2" PVC	24.5	19.5 - 24.5	Bedrock	9.5	MG	$8.15 \times 10^{-5}$
MW-D1	HNUS	4/7/93	2" 316 SS	30.4	24.9 - 29.9	Bedrock	20.3	UG-ISU	$1.05 \times 10^{-5}$
MW-D2	HNUS	4/12/93	2" 316 SS	29.0	21.0 - 26.0	Bedrock	17.0	DG-ISU	$1.15 \times 10^{-5}$
MW-D3	HNUS	4/14/93	2" 316 SS	26.5	20.5 - 25.5	Bedrock	16.0	DG-ISU	$3.4 \times 10^{-6}$
MW-D4	HNUS	4/8/93	2" 316 SS	26.0	19.5 - 24.5	Bedrock	15.5	DG-ISU	$4.4 \times 10^{-6}$
MW-D5	HNUS	4/6/93	2" 316 SS	29.0	19.5 - 24.5	Bedrock	15.5	UP-ISU	$6.1 \times 10^{-6}$

PVC = Polyvinyl Chloride (rigid)

SS = Stainless Steel

DG = Down Gradient of the Fill

UG = Up Gradient of the Fill

MG = Mid Gradient

DG-ISU = Down Gradient inside the Interim Surface Unit

UP-ISU = Up Gradient inside the Interim Surface Unit

**TABLE 8**  
**GROUND WATER ELEVATION DATA**

Robertson-Ceco Corporation  
Lemont, Illinois

Well Number	TOC MPE (ft)	1/31/96		3/25/96		4/25/96	
		Depth to Water (ft btoc)	Ground Water Elevation (ft)	Depth to Water (ft btoc)	Ground Water Elevation (ft)	Depth to Water (ft btoc)	Ground Water Elevation (ft)
OW-1	596.42	12.46	583.96	12.64	583.78	12.17	584.25
OW-2	591.74	7.15	584.59	7.15	584.59	7.09	584.65
OW-3	592.01	2.64	589.37	3.05	588.96	2.62	589.39
OW-4	592.53	3.69	588.84	4.05	588.48	3.59	588.94
B	593.56	11.4	582.16	11.8	581.76	11.09	582.47
C	593.76	11.44	582.32	11.92	581.84	11.1	582.66
D	588.79	6.45	582.34	6.88	581.91	6.1	582.69
J	600.34	13.96	586.38	13.75	586.59	13.41	586.93
K	600.64	12.19	588.45	12.15	588.49	11.95	588.69
MW-D1	600.56	-	-	12.49	588.07	12.16	588.4
MW-D2	601.04	-	-	15.15	585.89	14.87	586.17
MW-D3	601.27	13.98	587.29	13.84	587.43	13.51	587.76
MW-D4	601.89	15.46	586.43	15.58	586.31	15.27	586.62
MW-D5	602.77	-	-	14.19	588.58	13.73	589.04

ft btoc = Feet Below Top Of Casing

TOC = Top Of Casing

MPE = Measuring Point Elevation

- = Water level unable to be measured

**TABLE 9**  
**SLAG FILL THICKNESS AND**  
**DEPTH TO BEDROCK DATA**

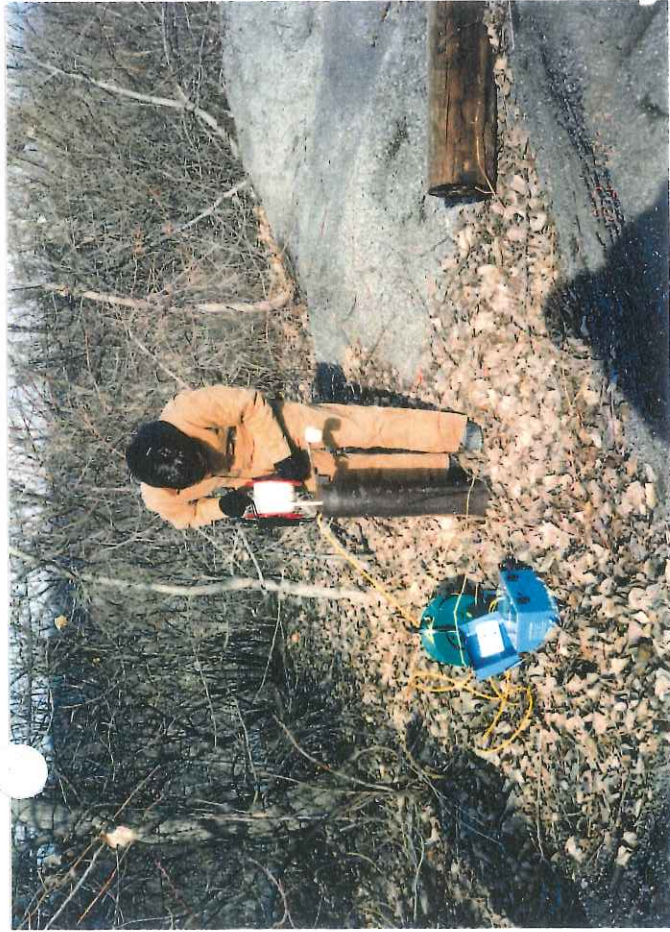
Robertson-Ceco  
Lemont, Illinois

Borehole Number	Surface Elevation	Depth to Bedrock (feet)	Bedrock Surface Elevation (feet)	Thickness of Slag Fill (feet)
SB-01	590.9	12.0	578.9	9.5
SB-02	590.5	12.0	578.5	8.0
SB-03	592.4	18.5	573.9	11.5
SB-04	598.2	16.75	581.5	16.75
SB-05	598.5	15.0	583.5	7.0
SB-06	587.5	3.5	584.0	3.5
SB-07	598.9	13.0	585.9	9.25
SB-08	599.3	12.5	586.8	12.5
SB-09	600.8	15.0	585.8	15.0
SB-10	594.2	14.5	579.7	10.5
SB-11	592.5	13.0	579.5	7.5
SB-12	598.6	21.0	577.6	1.0
SB-13	598.3	12.75	585.6	3.0
SB-14	600.1	13.0	587.1	7.0
SB-15	600.3	12.0	588.3	7.25
SB-16	600.9	13.5	587.4	13.5
SB-17	589.7	5.0	584.7	2.5
SB-18	588.8	5.75	583.1	1.0
SB-19	592.2	9.0	583.2	7.5
SB-20	595.7	12.0	583.7	11.0
SB-21	596.0	12.5	583.5	1.0
SB-22	596.3	9.5	586.8	1.0
SB-23	596.3	9.0	587.3	1.0
SB-24	600.7	9.0	591.7	1.0

\* All elevations are in reference to actual mean sea level

**ATTACHMENT A**  
**PHOTOGRAPH LOG**





Photograph 1



Photograph 2



Photograph 3

**Robertson-Ceco Corporation Property, Lemont, Illinois  
Site Photographs from RFI Phase I Field Activities**

Photograph 1

View from south looking north. CEI personnel performing "slug test" on monitoring Well C.

Photograph 2

Rock & Soil Drilling Corp. setting up on soil boring SB-4.

Photograph 3

Rock & Soil Drilling Corp. advancing soil boring SB-6.





Photograph 4



Photograph 6



Photograph 5

# **Robertson-Ceco Corporation Property, Lemont, Illinois Site Photographs from RFI Phase I Field Activities**

Photograph 4

Rock & Soil Drilling Corp. advancing off-site soil boring SB-26.

Photograph 5

View from west looking east. Rock & Soil Drilling Corp. advancing off-site soil boring SB-27.

Photograph 6

Ground water sampling equipment set up on monitoring well MW-D2.

**ATTACHMENT B**  
**SOIL BORING LOGS**

MAJOR DIVISIONS				TYPICAL NAMES	
COARSE-GRAINED SOILS More than 50% larger than No. 200 sieve size	GRAVEL AND GRAVELLY SOILS More than 50% of coarse fraction is larger than No. 4 sieve size	CLEAN GRAVELS Little or no fines		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
				GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES With over 12% fines		GM	Silty gravels, gravel-sand-silt mixtures
				GC	Clayey gravels, gravel-sand-clay mixtures
	SAND AND SANDY SOILS More than 50% of coarse fraction is smaller than No. 4 sieve size	CLEAN SAND Little or no fines		SW	Well-graded sands, gravelly sands, little or no fines
				SP	Poorly-graded sands, gravelly sands, little or no fines
		SANDS WITH FINES With over 12% fines		SM	Silty-sands, sand-silt mixtures
				SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS More than 50% smaller than No. 200 sieve size	SILTS AND CLAYS Liquid limit less than 50%			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts, with slight plasticity
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
				OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS Liquid limit greater than 50%			MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils
				CH	Inorganic clays of high plasticity, fat clays
				OH	Organic clays of medium to high plasticity, organic silts
			HIGHLY ORGANIC SOILS		

### UNIFIED SOIL CLASSIFICATION SYSTEM

- Bulk or classification sample
- Sample preserved for possible analysis
- First-encountered ground water level (saturation)
- Static ground water level
- SPT - Standard Penetration Test
- P - Push sample (thin walled sampler "Shelby Tube")

- OVA - Organic Vapor Analyzer, including both the PID and FID
- PID - Photolionization Detector, (Microtip H-200) calibrated to 100 ppm isobutylene standard with a 10.2 eV lamp
- FID - Flameionization Detector (Century 128) calibrated with 95 ppm methane
- Blow Counts - Blows required to drive a standard splitspoon sampler 6 inches with a 140 pound hammer free falling 30 inches. Blow counts for S & H samplers are converted to approximate "equivalent" SPT N valued ( $n = 0.5 \times S + H$  blows per foot)
- "n" value - Number of blows required to advance the splitspoon sampler in two 6 inch increments falling 6 inches of seating

### KEY TO BORING LOG



**CARLSON ENVIRONMENTAL, INC.**

312 West Randolph Street  
Chicago, Illinois 60606  
(312) 346-2140

### Soil Classification Chart & Key To Test Data

Date  
9-8-95

Drawn By  
P. Barys

Revised Date

Sheet of



<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-01</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b>	
				<b>Job Number:</b> 9236A					
				<b>Elevation:</b> NA					
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/11/95 0810			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/11/95 0845			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> 9.5 ft. BGS		<b>Depth to Rock:</b> 12 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 12 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray <b>SLAG</b> , dry, fine sand to coarse gravel size	
SB-01A (0816)	1-3	20"	14,33 42,50/3"	2			
SB-01B (0817)	3-5	10"	8,36 24,23	3			
				4			
				5			
SB-01C (0820)	5-7	15"	5,11 11,50/5"	6		Dark gray slag, wet, fine sand to coarse gravel size, trace soft white inclusions	
				7			
SB-01D (0825)	7-9	1"	50/3"	8			
				9			
SB-01E (0835)	9-11	15"	3,5 5,8	10		Black <b>CLAY (CL)</b> , saturated, with coarse gravel	Approximate boundary between fill material and native soil
				11		Green <b>SILT (OL)</b> , wet to saturated, some organics	
SB-01F (0838)	11-13	5"	4,50/5"	12		Gray/white <b>WEATHERED DOLOMITE</b> , fractured	
				13		Dolomite bedrock at 12 feet bgs	
				14			
				15			
				16			
				17			
				18			
				19			
				20			

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-02</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b> <b>Job Number:</b> 9236A <b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/11/95 0905			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/11/95 1035			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> 9 ft. BGS		<b>Depth to Rock:</b> 12 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 12 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray <b>SLAG</b> , dry, fine sand to fine gravel size, trace soft white inclusions	Auger refusal at 4.5 feet bgs. Moved borehole 3X, large pieces of metal in cuttings
SB-02A (0911)	1-3	20"	10,42 25,20	2			
				3			
SB-02B (0915)	3-5	15"	8,17 50/3"	4			
				5			
				6		Some coarse gravel sized slag	
SB-02C (1000)	5-7	2"	50/3"	7		Trace wood debris	
SB-02D (1015)	7-9	12"	7,28 10,8	8		Dark gray <b>CLAYEY SILT (ML)</b> , moist, some organics	Approximate boundary between fill material and native soil
				9			
SB-02E (1020)	9-11	20"	3,3 4,4	10			
				11			
SB-02F (1025)	11-13	3"	47,50/5"	12		Gray/white <b>WEATHERED DOLOMITE</b> , fractured	
				13		Dolomite bedrock at 12 feet bgs	
				14			
				15			
				16			
				17			
				18			
				19			
				20			

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-03</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois		<b>Sheet 1 of 1</b> <b>Job Number:</b> 9236A <b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.				<b>Date/Time Started:</b> 12/11/95 1040			
<b>Drill Method:</b> Hollow Stemmed Augers				<b>Date/Time Completed:</b> 12/11/95 1215			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon				<b>Depth to Water:</b> 9 ft. BGS		<b>Depth to Rock:</b> 18.5 ft. BGS	
<b>Borehole Diameter:</b> 6 in.		<b>Total Depth:</b> 18.5 ft. BGS		<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	
Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray <b>SLAG</b> , dry, very fine to coarse sand size	
SB-03A (1052)	1-3	20"	8,34 24,25	2		2" black slag seam, dry, shiny, silt to very fine sand size	
				3		Dark brown slag, dry, fine sand to coarse sand size	
SB-03B (1100)	3-5	20"	15,19 21,25	4		Slag becomes moist	
				5		Dark brown slag, wet, silt to coarse sand size, trace clay and wood	
SB-03C (1103)	5-7	18"	15,15 21,24	6		Black slag, wet, fine sand to coarse gravel size (mostly medium sand size)	
				7		Brown slag, wet, medium sand to coarse gravel size, trace red brick	
SB-03D (1110)	7-9	5"	10,50/4"	8			
				9		Color change to brown/black, saturated at 9 feet bgs	
SB-03E (1115)	9-11	18"	15,8 2,5	10		1.5" piece of wood	
				11			
SB-03F (1154)	11-13	13"	10,11 4,4	12		Brown/green <b>CLAYEY SILT (OL)</b> , saturated, black streaks, organic-rich	Approximate boundary between fill material and native soil
				13			
SB-03G (1159)	13-15	20"	2,4 1,1	14		Brown/green <b>SILTY CLAY (OL)</b> , moist, organic-rich	
				15		Color change to black at 14.5 feet bgs	
SB-03H (1206)	15-17	24"	1,2 1,2	16			
				17			
SB-03I (1210)	17-19	14"	1,10 50/4"	18		Gray/white <b>WEATHERED DOLOMITE</b> , fractured	
				19			
				20		Dolomite bedrock at 18.5 feet bgs	

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-04</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b> <hr/> <b>Job Number:</b> 9236A <hr/> <b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/11/95 1320			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/11/95 1435			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> 13 ft. BGS		<b>Depth to Rock:</b> 16.75 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 16.75 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray <b>SLAG</b> , dry, silt to fine gravel size (mostly fine gravel)	
SB-04A (1345)	1-3	2"	50/4"	2			
				3		Dark brown slag, moist, silt to fine gravel size	
SB-04B (1355)	3-5	8"	No Counts	4			
				5		Dark brown slag, moist, fine sand to coarse gravel size, trace clay	
SB-04C (1400)	5-7	15"	27,60 50/4"	6		trace limestone fragments	
				7			
SB-04D (1405)	7-9	4"	25,50/3"	8		Large metal fragments	
				9			
SB-04E	9-11	NR	50/2"	10			
				11		Brown slag, moist, fine sand to coarse gravel size	
SB-04F (1418)	11-13	15"	19,17 14,30	12			
				13		▼ Dark brown slag, saturated, fine sand to coarse gravel size (mostly fine gravel size)	
SB-04G (1425)	13-15	3"	17,31 18,12	14			
				15			
SB-04H (1430)	15-17	5"	10,10 12,50/2"	16		Large limestone fragments	
				17			
				18	Dolomite bedrock at 16.75 feet bgs	Approximate boundary between fill material and bedrock	
				19			
				20			

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-05</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b> <b>Job Number:</b> 9236A <b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/12/95 0730			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/12/95 0849			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> 12 ft. BGS		<b>Depth to Rock:</b> 15 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 15 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks		
SB-05A (0746)	1-3	20"	24,24 32,50	1		Gray <b>SLAG</b> , dry, fine to coarse gravel size Dark brown slag, moist, fine sand to fine gravel size, trace limestone and red brick Dark brown/gray slag, moist, silt to medium sand size, trace soft white inclusions trace wood debris and large slag cobbles Dark brown slag, moist, silt to medium sand size, trace coarse gravel size, trace wood, clay			
SB-05B (0750)	3-5	6"	48,50/1"	2				Dark brown <b>CLAYEY SILT (ML)</b> , moist 3" of carpet fibers Dark brown <b>CLAYEY SILT (ML)</b> , moist, trace fine to coarse gravel sized slag, carpet fibers	
SB-05C (0802)	5-7	10"	31,22 24,16	3					
SB-05D (0807)	7-9	8"	9,18 14,15	4					
SB-05E (0815)	9-11	6"	7,11 16,12	5					
SB-05F (0823)	11-13	10"	7,8 9,10	6					
SB-05G (0828)	13-15	4"	4,2 50/3"	7				Dark brown <b>GRAVELLY SAND (GM)</b> , saturated, coarse sand, some silt Dark brown/gray <b>SILTY CLAY (CL)</b> , saturated, trace copper wire	
				15		Dolomite bedrock at 15 feet bgs Approximate boundary between fill material and bedrock			
				16					
				17					
				18					
				19					
				20					



<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-06</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b>	
				<b>Job Number:</b> 9236A					
				<b>Elevation:</b> NA					
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/12/95 0915			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/12/95 0940			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 3.5 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 3.5 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
SB-06A (0920)	1-3	8"	18,32 42,50/4"	1		Gray <b>SLAG</b> , dry, silt to fine gravel size Dark brown slag, moist, silt to coarse gravel size	
				2			
				3			
SB-06B (0925)	3-5	5"	50/3"	4		Dolomite bedrock at 3.5 feet bgs	Approximate boundary between fill material and bedrock
				5			
				6			
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

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<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/12/95 0942			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/12/95 1100			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 13 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 13 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks	
				1		Gray <b>SLAG</b> , dry, fine to coarse gravel size	Auger refusal at 6.75 feet bgs. Moved borehole location 4X. Cuttings contain plastic and metal fragments	
SB-07A (1000)	1-3	12"	39,50/4"	2		Dark brown slag, moist, silt to coarse sand size		
				3				
SB-07B (1005)	3-5	20"	16,24 34,34	4		Black slag, moist, silt to fine gravel size, trace plastic, glass, soft white inclusions		
				5				
SB-07C (1009)	5-7	12"	18,35 50/4"	6		trace limestone and red brick		
				7		2" of black glassy shards, very fine to coarse sand size, trace coarse gravel sized slag		
SB-07D (1035)	7-9	3"	11,11 11,6	8		Large piece of slag in spoon		
				9				
SB-07E (1040)	9-11	20"	5,5 3,6	10		Black <b>CLAY (CL)</b> , moist, soft, trace fine to coarse limestone		Approximate boundary between fill material and native soil
				11				
SB-07F (1049)	11-13	18"	9,10 8,11	12				
				13				Gray/white <b>WEATHERED DOLOMITE</b> , fractured
SB-07G	13-15	1"	50/1"	14		Dolomite bedrock at 13 feet bgs		
				15				
				16				
				17				
				18				
				19				
				20				

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<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/12/95 1140			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/12/95 1350			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 12.5 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 12.5 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	
Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description		Remarks	
				1		Gray <b>SLAG</b> , dry, fine to coarse gravel size Brown slag, dry to moist, silt to fine gravel size		Auger refusal at 6 feet bgs. Moved borehole location 4X. Large blocks of slag visible in open borehole.	
SB-08A (1145)	1-3	3"	50/5"	2					
SB-08B (1200)	3-5	8"	18,25 35,38	3		Gray slag, moist, coarse			
SB-08C (1205)	5-7	8"	3,4 13,50	4		Brown slag, moist, fine sand to coarse gravel size			
SB-08D (1320)	7-9	8"	18,18 18,17	5		Brown slag, moist, silt to coarse gravel size, trace red brick			
SB-08E (1325)	9-11	2"	7,19 14,15	6					
SB-08F (1335)	11-13	6"	14,15 50/4"	7		trace polyethylene sheeting, clay			
				8		Dolomite bedrock at 12.5 feet bgs		Approximate boundary between fill material and bedrock	
				9					
				10					
				11					
				12					
				13					
				14					
				15					
				16					
				17					
				18					
				19					
				20					

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-09</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b> <b>Job Number:</b> 9236A <b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/12/95 1355			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/12/95 1440			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> 12 ft. BGS		<b>Depth to Rock:</b> 15 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 15 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray <b>SLAG</b> , dry, fine to coarse gravel size	Cuttings contain a large amount of scrap metal
SB-09A (1400)	1-3	6"	21,25 26,19	2		Dark gray slag, dry, silt to coarse gravel size, trace wood	
				3			
SB-09B (1405)	3-5	20"	17,18 15,15	4		Dark gray/brown slag, moist, silt to coarse gravel size (mostly medium sand size), trace small soft white inclusions	
				5			
SB-09C (1411)	5-7	16"	20,29 20,19	6			
				7		trace yellow/orange brick	
SB-09D (1418)	7-9	6"	10,5 11,9	8		trace clay	
				9		Dark brown slag, moist, clay to fine gravel size (mostly fines), trace metal scraps	
SB-09E (1422)	9-11	4"	5,4 5,6	10			
				11			
SB-09F (1427)	11-13	4"	9,9	12	▼ Fill becomes wet to saturated at approximately 12 feet bgs, trace wood and metal scraps		
				13			
SB-09G (1431)	13-15	2"	15,19 50/5"	14	1" piece of scrap metal		
				15			
				16		Dolomite bedrock at 15 feet bgs	Approximate boundary between fill material and bedrock
				17			
				18			
				19			
				20			

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Driller: Rock & Soil Drilling Corp.						Date/Time Started: 12/13/95 0730			
Drill Method: Hollow Stemmed Augers						Date/Time Completed: 12/13/95 0855			
Sample Method: 2-Inch Diameter Split-Spoon						Depth to Water: 8 ft. BGS		Depth to Rock: 14.5 ft. BGS	
Borehole Diameter: 6 in.		Total Depth: 14.5 ft. BGS		Logged By: BAS		Checked By: PEB			

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
SB-10A (0757)	1-3	14"	30,20 22,19	1		Gray <b>SLAG</b> , dry, fine to coarse gravel size	
				2		Dark brown slag, dry to moist, silt to coarse gravel size (mostly fines), trace brick debris	
				3		3" of limestone fragments at 1.5 feet bgs	
				4		trace small soft white inclusions, trace clay	
SB-10B (0802)	3-5	18"	19,27 32,50/3"	5		Clay content decreases	
				6			
SB-10C (0806)	5-7	14"	4,18 20,22	7		trace brick debris	
				8		▼ Black slag, wet to saturated, coarse fragments	
SB-10D (0812)	7-9	4"	8,9 13,14	9			
				10		Dark and light brown <b>SILTY SAND (SM)</b> , saturated, trace wood	
SB-10E (0816)	9-11	12"	2,2 6,7	11		Black slag, saturated, coarse fragments	
				12		Black <b>SILTY CLAY (OL)</b> , soft, wet, some organics	
SB-10F (0827)	11-13	20"	4,4 5,4	13		Brown/gray <b>CLAYEY SILT (OL)</b> , moist, mottled, some organics	
				14		Black <b>CLAYEY SILT (OL)</b> , moist, organic-rich	
SB-10G (0831)	13-15	15"	1,2 50/4"	15		Approximate boundary between fill material and native soil	
				16	Dolomite bedrock at 14.5 feet bgs		
				17			
				18			
				19			
				20			

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<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/13/95 0900			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/13/95 1035			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> 9.5 ft. BGS		<b>Depth to Rock:</b> 13 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 13 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks	
SB-11A (0910)	1-3	8"	20,50/5"	1		Grass and gray <b>SLAG</b> , dry, fine to coarse gravel size Dark brown slag, dry to moist, fine sand to fine gravel size (mostly medium sand size), trace leaves, roots, and metal scraps		
SB-11B (0913)	3-5	3"	14,18 16,17	2		Sample wet		
SB-11C (0918)	5-7	6"	7,8 50/5"	3		Slag becomes fine sand to coarse gravel size		
SB-11D (1005)	7-9	5"	9,10 8,4	4		Dark brown <b>SANDY SILT (SM)</b> , moist, very fine sand grain		Approximate boundary between fill material and native soil
SB-11E (1010)	9-11	20"	1,4 3,2	5		Green/brown <b>CLAYEY SILT (OH)</b> , wet to saturated, some organics		
SB-11F (1025)	11-13	15"	2,19 17,50/4"	6		Black <b>CLAYEY SILT (OL)</b> , wet to moist, organic-rich		
				7		Gray/white <b>WEATHERED DOLOMITE</b> , fractured		
				8	Dolomite bedrock at 13 feet bgs			
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956		<b>Log of Boring SB-12</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois		Sheet 1 of 1 <hr/> <b>Job Number:</b> 9236A <hr/> <b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.			<b>Date/Time Started:</b> 12/13/95 1120		
<b>Drill Method:</b> Hollow Stemmed Augers			<b>Date/Time Completed:</b> 12/13/95 1220		
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon			<b>Depth to Water:</b> 11 ft. BGS		<b>Depth to Rock:</b> 21 ft. BGS
<b>Borehole Diameter:</b> 6 in.		<b>Total Depth:</b> 21 ft. BGS	<b>Logged By:</b> BAS		<b>Checked By:</b> PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1	○ ○ ○ ○	Grass and gray <b>SLAG</b> , dry, fine to coarse gravel size	Moved borehole 2X
SB-12A (1127)	1-3	20"	6,12 8,6	2		Dark brown <b>CLAYEY SILT (ML)</b> , moist, trace fine to coarse gravel, trace organics 3" of fractured limestone	
SB-12B (1131)	3-5	16"	2,8 12,12	3		trace limestone, fine to coarse gravel size	
SB-12C (1135)	5-7	12"	6,10 8,8	4		1.5" pieces of black slag 4" of coarse fractured limestone	
SB-12D (1138)	7-9	10"	4,4 9,4	5		Dark brown <b>CLAYEY SILT</b> , moist, trace fine to coarse gravel sized limestone	
SB-12E (1143)	9-11	6"	4,5 8,8	6		Black/dark brown <b>CLAY (CL)</b> , soft, moist to wet, trace fine to coarse gravel sized limestone	Approximate boundary between fill material and native soil
SB-12F (1146)	11-13	10"	10,15 11,9	7		Gray/white <b>WEATHERED LIMESTONE</b> , saturated, fractured	
SB-12G (1150)	13-15	15"	9,21 31,19	8			
SB-12H (1155)	15-17	14"	4,3 3,2	9		Black <b>CLAYEY SILT (ML)</b> , medium stiff, moist, trace coarse sand	
SB-12I (1203)	17-19	24"	3,12 17,70/5"	10		Black <b>SILTY CLAY (OL)</b> , soft, moist, organic-rich	
SB-12J (1207)	19-21	24"	3,12 17,70/5"	11		Dolomite bedrock at 21 feet bgs	

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				<b>Job Number:</b> 9236A				<b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/13/95 1230			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/13/95 1320			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 12.75 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 12.75 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks	
SB-13A (1238)	1-3	10"	16,13 13,28	1		Gray <b>SLAG</b> , dry, fine to coarse gravel size Dark brown/dark gray slag, moist, silt to coarse gravel size (mostly coarse)		
SB-13B (1243)	3-5	20"	30,32 41,50/4"	2		Dark brown <b>SILT (ML)</b> , moist, some fine to coarse gravel sized slag, trace clay 6" Gray/black silt sized shards, dry, shiny		
SB-13C (1250)	5-7	10"	4,6 2,4	3		Dark brown <b>CLAYEY SILT (ML)</b> , moist, trace fine gravel sized slag		
				4		Gray/black silt to coarse sand sized material, dry, shiny		
SB-13D (1254)	7-9	10"	4,6 2,4	5		Dark brown <b>CLAYEY SILT (ML)</b> , moist, trace fine to coarse gravel sized limestone		Approximate boundary between fill material and native soil
SB-13E (1259)	9-11	10"	3,4 5,6	6				
SB-13F (1304)	11-13	14"	4,7 9,50/3"	7				
				8	Black <b>SILTY CLAY (OL)</b> , moist, organic-rich			
				9	Dolomite bedrock at 12.75 feet bgs			
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				



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<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/13/95 1325			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/13/95 1425			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 13 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 13 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1			
SB-14A (1333)	1-3	5"	8,10 12,14	2		Gray <b>SLAG</b> , dry, fine to coarse gravel size Black slag, moist, sand to coarse gravel size, trace brick	
				3			
SB-14B (1336)	3-5	6"	5,19 11,8	4		Dark brown slag, moist, silt to coarse gravel size	
				5		Slag becomes sand to coarse gravel size	
SB-14C (1338)	5-7	12"	5,8 18,3	6			
				7		Yellow, weathered limestone fragments	
SB-14D (1341)	7-9	5"	5,50/5"	8	Dark brown <b>CLAYEY SILT (ML)</b> , moist, trace fine gravel sized slag		
				9			
SB-14E	9-11	NR	50/3"	10			Moved borehole 1X
				11			
SB-14F (1407)	11-13	12"	13,17 18,50/2"	12		Dark brown <b>CLAYEY GRAVEL (GC)</b> , saturated, fine to coarse gravel, some silt	Approximate boundary between fill material and native soil
				13		Dark brown <b>SILTY CLAY (OL)</b> , moist to wet, soft, trace organics	
				14		Dolomite bedrock at 13 feet bgs	
				15			
				16			
				17			
				18			
				19			
				20			

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<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/14/95 0730			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/14/95 0815			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 12 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 12 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray <b>SLAG</b> , dry, sand to coarse gravel size (mostly coarse sand size)	
SB-15A (0742)	1-3	10"	28,29	2			
				3			
SB-15B (0747)	3-5	5"	19,20 32,27	4		Slag is mostly fine to coarse gravel size	
				5			
				6		Dark gray/brown slag, moist, silt to coarse gravel size	
SB-15C (0752)	5-7	8"	21,27 32,21	7			
SB-15D (0758)	7-9	16"	8,8 11,12	8		Yellow/brown <b>WEATHERED LIMESTONE</b> , crushed, moist, sand to coarse gravel size	Approximate boundary between fill material and native soil
SB-15E (0802)	9-11	10"	8,45 17,12	9			
				10	Black <b>CLAYEY SILT (ML)</b> , soft, trace fine gravel sized limestone fragments Limestone content increases		
				11	trace coarse white/gray gravel sized limestone, trace organics		
SB-15F (0809)	11-13	6"	8,50	12		Dolomite bedrock at 12 feet bgs	
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

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								<b>Job Number:</b> 9236A	
								<b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/14/95 0905			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/14/95 0950			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 13.5 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 13.5 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray <b>SLAG</b> , moist, silt to coarse gravel size Color change to dark brown, trace metal scraps  trace soft white inclusions, metal scraps  Slag becomes mostly coarse sand to coarse gravel size	
SB-16A (0911)	1-3	20"	21,25 30,30	2			
SB-16B (0915)	3-5	18"	31,24 24,20	3			
SB-16C (0919)	5-7	6"	11,9 4,8	4			
SB-16D (0924)	7-9	5"	8,21 24,20	5			
SB-16E (0928)	9-11	4"	6,8 10,17	6			
SB-16F (0932)	11-13	5"	6,6 5,4	7			
SB-16G (0938)	13-15	3"	50/5"	8			
				9			
				10			
				11			
				12			
				13			
				14	Dolomite bedrock at 13.5 feet bgs	Approximate boundary between fill material and bedrock	
				15			
				16			
				17			
				18			
				19			
				20			

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956		<b>Log of Boring SB-17</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois		<b>Sheet 1 of 1</b> <hr/> <b>Job Number:</b> 9236A <hr/> <b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.			<b>Date/Time Started:</b> 12/14/95 1000		
<b>Drill Method:</b> Hollow Stemmed Augers			<b>Date/Time Completed:</b> 12/14/95 1015		
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon			<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 5 ft. BGS
<b>Borehole Diameter:</b> 6 in.		<b>Total Depth:</b> 5 ft. BGS		<b>Logged By:</b> BAS	
				<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray <b>SLAG</b> , moist, silt to coarse gravel size Dark brown slag, moist, silt to coarse gravel size (mostly fines)	
SB-17A (1005)	1-3	20"	20,24 24,10	2			
				3		Light brown <b>CLAYEY SILT (ML)</b> , moist, some fine gravel	Approximate boundary between fill material and native soil
SB-17B (1010)	3-5	20"	4,16 21,20	4		Light brown <b>SILT (ML)</b> , moist, trace coarse sand, fine gravel	
				5		Dark brown <b>SILT (ML)</b> , moist, trace fine gravel and clay	
				6	Dolomite bedrock at 5 feet bgs		
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-18</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b> <hr/> <b>Job Number:</b> 9236A <hr/> <b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/14/95 1025			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/14/95 1050			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 5.75 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 5.75 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
					0	Gray <b>SLAG</b> , moist, silt to coarse gravel size	
SB-18A (1035)	1-3	18"	8,11 12,12	1	1	Dark brown <b>CLAYEY SILT (ML)</b> , moist, trace fine gravel, organics	Approximate boundary between fill material and native soil
				2	2	<b>WEATHERED LIMESTONE</b> , fractured, fine to coarse gravel size	
SB-18B (1038)	3-5	6"	10,20 16,14	3	3	Dark brown <b>CLAYEY SILT (ML)</b> , moist, trace fine gravel, organics	
				4	4	White/gray <b>WEATHERED DOLOMITE</b> , fractured, coarse gravel size	
SB-18C (1042)	5-7	4"	30,50/3"	5	5		
				6	6	Dolomite bedrock at 5.75 feet bgs	
				7	7		
				8	8		
				9	9		
				10	10		
				11	11		
				12	12		
				13	13		
				14	14		
				15	15		
				16	16		
				17	17		
				18	18		
				19	19		
				20	20		

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956		<b>Log of Boring SB-19</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois		<b>Sheet 1 of 1</b> <hr/> <b>Job Number:</b> 9236A <hr/> <b>Elevation:</b> NA	
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<b>Driller:</b> Rock & Soil Drilling Corp.			<b>Date/Time Started:</b> 12/14/95 1130		
<b>Drill Method:</b> Hollow Stemmed Augers			<b>Date/Time Completed:</b> 12/14/95 1205		
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon			<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 9 ft. BGS
<b>Borehole Diameter:</b> 6 in.		<b>Total Depth:</b> 9 ft. BGS	<b>Logged By:</b> BAS		<b>Checked By:</b> PEB

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray <b>SLAG</b> , moist, silt to fine gravel size Dark brown/gray slag, moist, silt to coarse sand size, trace coarse gravel sized slag and limestone  trace brick debris	
SB-19A (1135)	1-3	20"	19,16 16,26	2			
SB-19B (1138)	3-5	8"	14,26 16,13	3			
SB-19C (1142)	5-7	10"	4,5 12,15	4			
				5			
				6			
				7			
SB-19D (1153)	7-9	10"	32,57 27,15	8		Black <b>SILTY CLAY (CL)</b> , moist, trace limestone	Approximate boundary between fill material and native soil
				9		White/gray <b>WEATHERED DOLOMITE</b> , fractured	
				10		Dolomite bedrock at 9 feet bgs	
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			



<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-21</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b> <b>Job Number:</b> 9236A <b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/14/95 1323			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/14/95 1415			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> 12 ft. BGS		<b>Depth to Rock:</b> 12.5 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 12.5 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray <b>SLAG</b> , moist, silt to coarse gravel size	
SB-21A (1330)	1-3	7"	13,8 10,19	2		Dark brown <b>CLAYEY SILT (ML)</b> , moist, trace slag and wood	Mothball-like odor detected
SB-21B (1340)	3-5	16"	4,8 8,9	3		Dark brown <b>CLAY (CL)</b> , moist, medium stiff, some silt, trace fine to coarse gravel sized limestone	Approximate boundary between fill material and native soil
SB-21C (1346)	5-7	15"	6,6 5,11	4			
				5			
SB-21D (1353)	7-9	12"	5,5 7,11	6		Brown <b>SANDY GRAVEL (GP)</b> , sand is poorly sorted, fine to coarse, gravel is fine to coarse, trace shale	
				7			
				8		trace wood debris	
SB-21E (1355)	9-11	8"	5,10 4,19	9		Black <b>SILTY CLAY (CL)</b> , moist, soft, trace coarse limestone	
				10		White/gray <b>WEATHERED DOLOMITE</b> , fractured	
SB-21F (1400)	11-13	15"	10,15 50/5"	11		Black <b>CLAY (OL)</b> , moist, stiff, green streaks, some organics	Petroleum odor detected
				12		White/gray <b>WEATHERED DOLOMITE</b> , fractured, saturated	Sheen on soil water
				13		Dolomite bedrock at 12.5 feet bgs	
				14			
				15			
				16			
				17			
				18			
				19			
				20			



<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-22</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				Sheet 1 of 1 <hr/> Job Number: 9236A <hr/> Elevation: NA	
Driller: Rock & Soil Drilling Corp.					Date/Time Started: 12/15/95 0725				
Drill Method: Hollow Stemmed Augers					Date/Time Completed: 12/15/95 0755				
Sample Method: 2-Inch Diameter Split-Spoon					Depth to Water: 9 ft. BGS		Depth to Rock: 9.5 ft. BGS		
Borehole Diameter: 6 in.			Total Depth: 9.5 ft. BGS		Logged By: PAH		Checked By: BAS		

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1	○ ○ ○ ○	Gray <b>SLAG</b> , dry, silt to coarse gravel size	
SB-22A (0738)	1-3	12"	35,20 25,14	2		Brown <b>SILT (ML)</b> , moist, trace medium sand and slag material	
SB-22B (0743)	3-5	15"	4,5 10,14	3		White/gray crushed <b>WEATHERED LIMESTONE</b> , and slag	
				4		Brown <b>SILTY CLAY (CL)</b> , moist, some slag material	
SB-22C	5-7	NR	30/1"	5			
				6			
SB-22D (0751)	7-9	8"	5,5 5,4	7		White/gray crushed <b>WEATHERED LIMESTONE</b> , and slag	
				8		Brown <b>SILTY CLAY (CL)</b> , moist, medium stiff, fine fill fragments	
SB-22E (0755)	9-11	6"	30/1"	9		Dark brown <b>SILTY CLAY (CL)</b> , wet, soft, trace limestone fragments	
				10		Dolomite bedrock at 9.5 feet bgs	Approximate boundary between fill material and native soil
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-23</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b> <b>Job Number:</b> 9236A <b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/15/95 0835			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/15/95 0855			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 9 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 9 ft. BGS			<b>Logged By:</b> PAH		<b>Checked By:</b> BAS	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray <b>SLAG</b> , dry, silt to coarse gravel size	
SB-23A (0845)	1-3	10"	15,41 32,28	2		Dark Brown <b>SILTY CLAY (CL)</b> , moist, some slag, trace limestone and broken glass	
				3		Some coarse gravel sized slag	
SB-23B (0848)	3-5	6"	32,42 12,15	4			
				5		Dark brown <b>SILT (ML)</b> , moist, some coarse gravel sized slag	
SB-23C (0851)	5-7	4"	6,12 13,16	6			
				7			
SB-23D	7-9	NR	40/2"	8			
				9		Dolomite bedrock at 9 feet bgs	Approximate boundary between fill material and bedrock
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-24</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b>	
				<b>Job Number:</b> 9236A					
				<b>Elevation:</b> NA					
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/15/95 0920			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/15/95 0950			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 9 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 9 ft. BGS			<b>Logged By:</b> PAH		<b>Checked By:</b> BAS	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		Gray <b>SLAG</b> , dry, silt to coarse gravel size	
SB-24A (0925)	1-3	18"	28,25 17,16	2		Brown <b>SILT (ML)</b> with fine to coarse gravel sized slag and limestone	
SB-24B (0929)	3-5	18"	27,25 22,25	3			
SB-24C (0934)	5-7	16"	18,21 31,22	4			
SB-24D -	7-9	NR	39,22 27,50/3"	5			
				6			
				7			
				8			
				9			
				10		Dolomite bedrock at 9 feet bgs	Approximate boundary between fill material and bedrock
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-25</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b> <b>Job Number:</b> 9236A <b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/15/95 1025			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/15/95 1040			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 5.5 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 5.5 ft. BGS			<b>Logged By:</b> PAH		<b>Checked By:</b> BAS	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		<b>GRASS/TOPSOIL</b>	
SB-25A (1026)	1-3	10"	8,8 8,8	2		Brown <b>SILTY CLAY (CL)</b> , moist, very stiff, trace fine gravel sized slag, limestone	
				3			
SB-25B (1029)	3-5	5"	2,5 5,4	4		White/gray <b>WEATHERED DOLOMITE</b> , fractured	Approximate boundary between fill material and native soil
				5		Brown <b>SILTY CLAY (CL)</b> with dolomite fragments, moist	
SB-25C (1032)	5-7	4"	50/4"	6		Dolomite bedrock at 5.5 feet bgs	
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6856				<b>Log of Boring SB-26</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b>	
				<b>Job Number:</b> 9236A					
				<b>Elevation:</b> NA					
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/15/95 1035			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/15/95 1050			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 5.5 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 5.5 ft. BGS			<b>Logged By:</b> PAH		<b>Checked By:</b> BAS	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		GRASS/TOPSOIL	
SB-26A (1041)	1-3	8"	5,4 7,8	2		Brown <b>SILTY CLAY (CL)</b> , moist, med. stiff, trace fine to medium gravel sized limestone	
SB-26B (1045)	3-5	6"	6,9 7,13	3			
				4			
				5		Clay becomes soft	
SB-26C (1049)	5-7	2"	50/4"	6		Dolomite bedrock at 5.5 feet bgs	
				7			
				8			
				9			
				10			
				11			
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-27</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b> <b>Job Number:</b> 9236A <b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/20/95 0800			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/20/95 0850			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 16.5 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 16.5 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1		<b>GRAVEL AND SLAG</b> , dry, sand to coarse gravel size	
SB-27A (0812)	1-3	16"	6,4 8,10	2		Dark brown <b>GRAVELLY SILT (GM)</b> , dry to moist, trace coarse sand to fine gravel sized slag, trace clay	
SB-27B (0817)	3-5	20"	9,19 25,28	3			
				4		Dark brown <b>CLAYEY SILT (ML)</b> , moist, trace fine gravel sized slag, trace organic	
SB-27C (0821)	5-7	6"	7,12 12,10	5		Dark brown <b>CLAY (CL)</b> , moist, medium stiff, some silt, trace coarse gravel sized limestone	Approximate boundary between fill material and native soil
				6			
SB-27D (0825)	7-9	20"	6,7 9,9	7		Black <b>CLAY (OL)</b> , moist, very stiff, organic-rich, trace silt, sand to coarse gravel sized limestone	
				8			
SB-27E (0828)	9-11	15"	2,4 6,6	9			
				10		Clay becomes medium stiff	
SB-27F (0833)	11-13	20"	3,4 4,5	11			
				12			
SB-27G (0835)	13-15	20"	2,2 3,4	13			
				14			
				15	Organic content decreases to trace		
SB-27H (0840)	15-17	15"	3,4 50/5"	16		White/gray <b>WEATHERED DOLOMITE</b> , fractured	
				17		Dolomite bedrock at 16.5 feet bgs	
				18			
				19			
				20			

<b>Carlson Environmental, Inc.</b> 312 West Randolph Street Suite 300 Chicago, IL 60606 Phone (312) 346-2140 Fax (312) 346-6956				<b>Log of Boring SB-28</b> Robertson-Ceco Corporation New Avenue Lemont, Illinois				<b>Sheet 1 of 1</b> <hr/> <b>Job Number:</b> 9236A <hr/> <b>Elevation:</b> NA	
<b>Driller:</b> Rock & Soil Drilling Corp.						<b>Date/Time Started:</b> 12/20/95 0855			
<b>Drill Method:</b> Hollow Stemmed Augers						<b>Date/Time Completed:</b> 12/20/95 0945			
<b>Sample Method:</b> 2-Inch Diameter Split-Spoon						<b>Depth to Water:</b> NA ft. BGS		<b>Depth to Rock:</b> 16.5 ft. BGS	
<b>Borehole Diameter:</b> 6 in.			<b>Total Depth:</b> 16.5 ft. BGS			<b>Logged By:</b> BAS		<b>Checked By:</b> PEB	

Sample No. (time)	Interval (feet)	Recovery (inches)	Blow Counts	Depth (feet)	Graphic Log	Materials Description	Remarks
				1	○ ○ ○ ○	<b>GRAVEL AND SLAG</b> , dry, sand to coarse gravel size	
SB-28A (0904)	1-3	18"	21,16 16,15	2		Dark brown <b>SILT (ML)</b> , dry to moist, trace coarse sand to coarse gravel sized slag and limestone, trace clay	
SB-28B (0907)	3-5	18"	10,10 7,6	4			
SB-28C (0910)	5-7	6"	2,3 3,5	6		Dark brown <b>CLAY (CL)</b> , moist, stiff to very stiff, some silt, trace coarse gravel	
SB-28D (0916)	7-9	10"	3,5 3,3	8		trace large pieces of slag and metal	
SB-28E (0919)	9-11	12"	5,2 6,11	10		Black <b>CLAY (CL)</b> , moist to wet, stiff, trace sand to gravel sized limestone, trace organics	Approximate boundary between fill material and native soil
SB-28F (0924)	11-13	20"	6,10 10,4	12		White/gray <b>WEATHERED DOLOMITE</b> , fractured	
SB-28G (0927)	13-15	10"	3,3 6,18	14		Black <b>SILTY CLAY (CL)</b> , moist, stiff, trace limestone	
SB-28H (0931)	15-17	20"	8,15 15,50/2"	16		<b>WEATHERED DOLOMITE</b> , fractured	
				17		Dolomite bedrock at 16.5 feet bgs	
				18			
				19			
				20			

**ATTACHMENT C**

**MONITORING WELL PERMEABILITY DATA**



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SLUG TEST METHOD FOR UNCONFINED AQUIFERS

REFERENCE: Bouwer, H. and R. C. Rice, 1976. A slug test method for determining hydraulic conductivity of unconfined aquifers with completely or partially penetrating wells, Water Resources Research, vol. 12, no. 3, pp. 423-428.

## SOLUTION:

$$\ln s_o - \ln s_t = \frac{2 K L t}{r_c^2 \ln(r_o/r_w)}$$

where:

$s_o$  = initial drawdown in well due to instantaneous removal of water from well [L]

$s_t$  = drawdown in well at time  $t$  [L]

$L$  = length of well screen [L]

$r_c$  = radius of well casing [L]

$\ln(r_o/r_w)$  = empirical "shape factor" determined from tables provided in Bouwer and Rice (1976)

$r_o$  = equivalent radius over which head loss occurs [L]

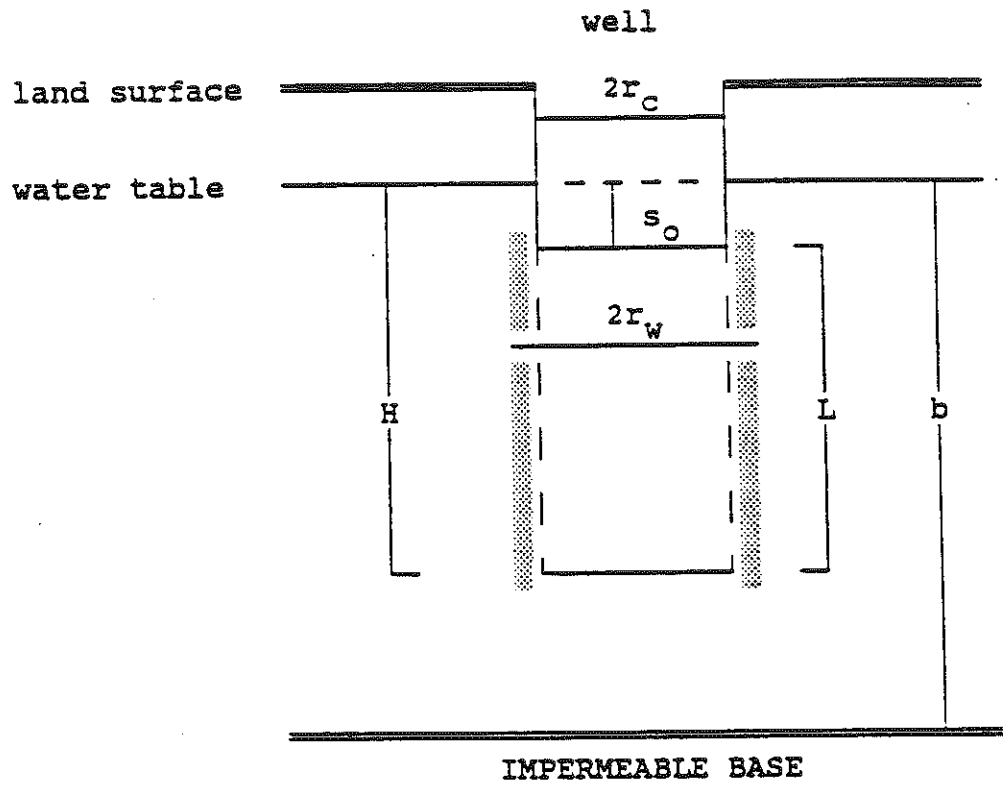
$r_w$  = radius of well (including gravel pack) [L]

$H$  = static height of water in well [L]

$b$  = saturated thickness of aquifer

**SLUG TEST METHOD FOR UNCONFINED AQUIFERS**  
(continued)

**DEFINITION OF TERMS:**



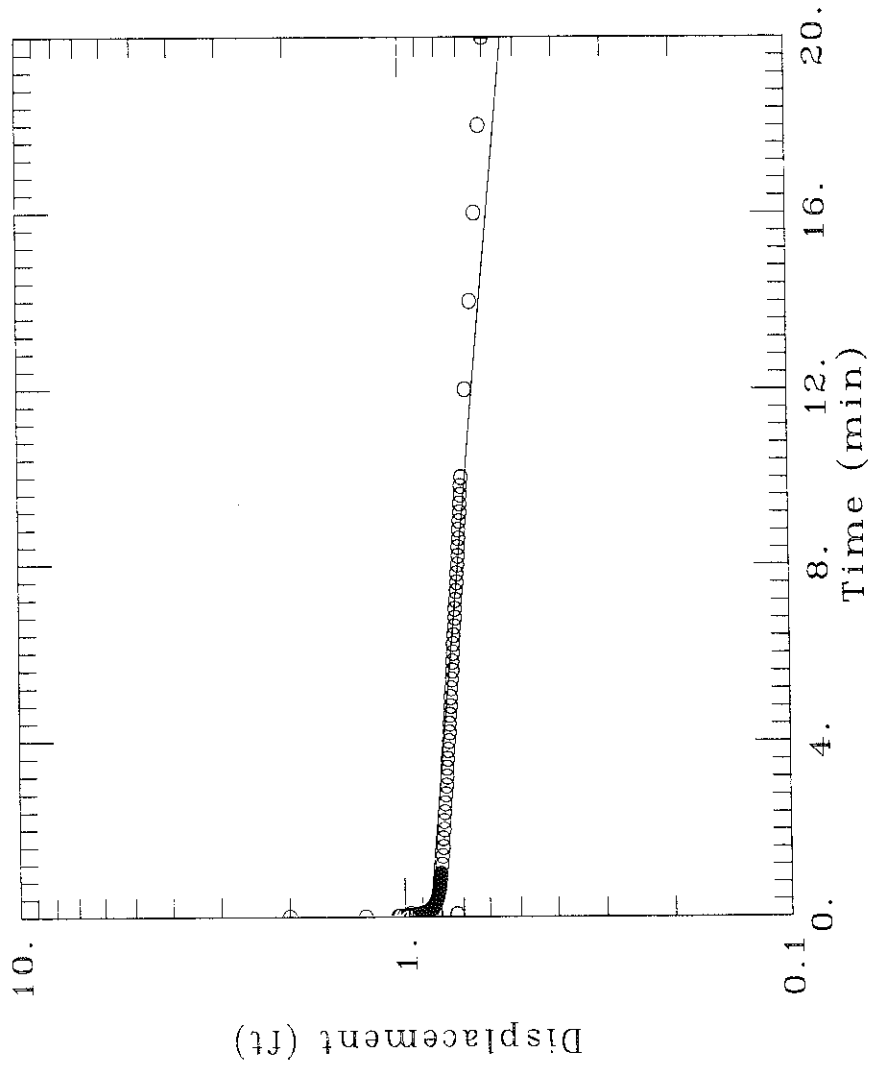
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - CECO

Project No.: 9236A

Location: Lemont, Illinois

MW-D1 RISING-HEAD PERMEABILITY TEST



DATA SET:

MW D1, AQT  
12/21/95

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

12-20-95

TEST WELL:

MW D1

ESTIMATED PARAMETERS:

$K = 2.083E-05$  ft/min  
 $Y_0 = 0.8591$  ft

TEST DATA:

$H_0 = 2$  ft  
 $r_c = 0.083$  ft  
 $r_w = 0.33$  ft  
 $L = 10$  ft  
 $b = 10$  ft  
 $H = 10$  ft

$K = 1.05 \times 10^{-5}$  cm/sec

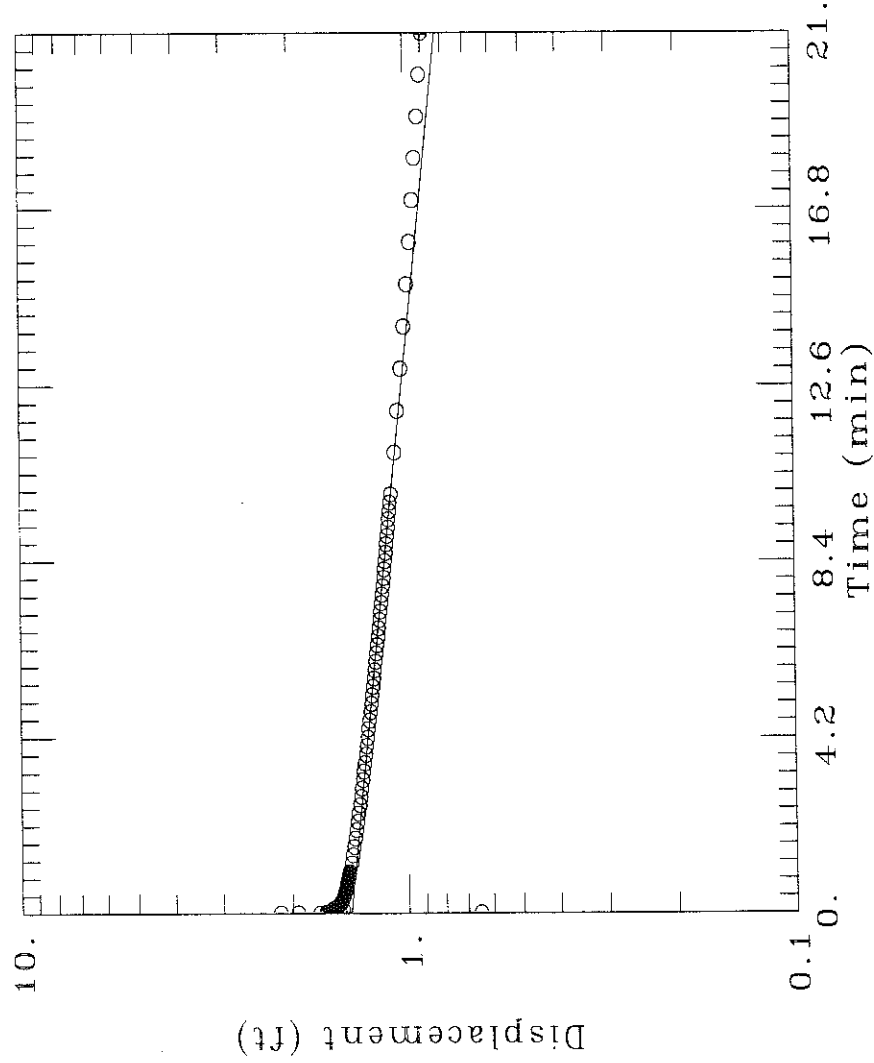
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - CECO

Project No.: 9236A

Location: Lemont, Illinois

## MW-D2 RISING-HEAD PERMEABILITY TEST



### DATA SET:

mw-d2.dat  
12/21/95

### AQUIFER TYPE:

Unconfined

### SOLUTION METHOD:

Bouwer-Rice

### TEST DATE:

12-20-95

### TEST WELL:

MW D2

### ESTIMATED PARAMETERS:

$K = 2.2652E-05$  ft/min  
 $y_0 = 1.409$  ft

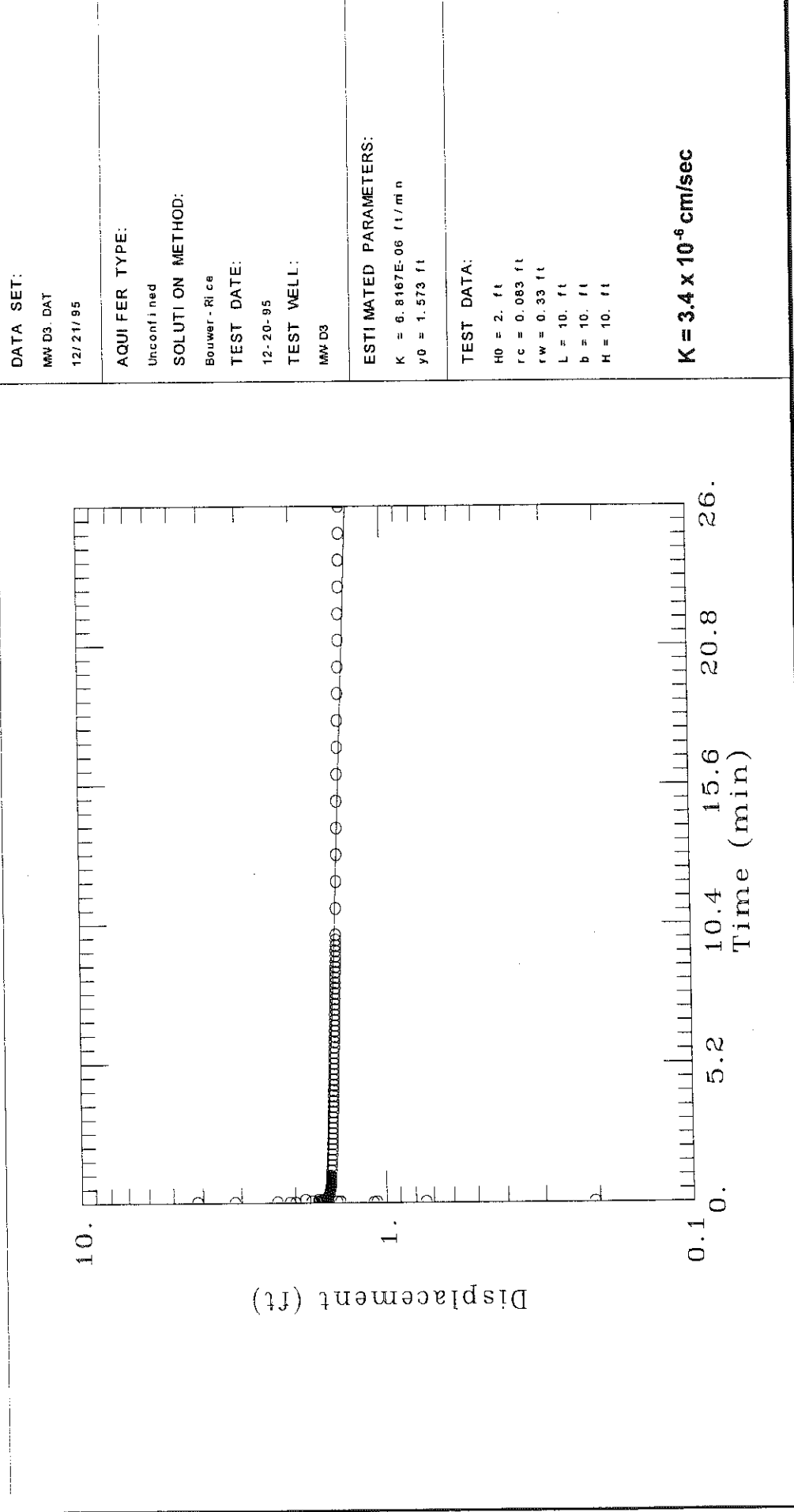
### TEST DATA:

$H_0 = 1.7$  ft  
 $r_c = 0.083$  ft  
 $r_w = 0.33$  ft  
 $L = 10$  ft  
 $b = 10$  ft  
 $H = 10$  ft

$K = 1.15 \times 10^{-5}$  cm/sec

CARLSON ENVIRONMENTAL, INC.		Client: Robertson - CECO
Project No.: 9236A	Location: Lemont, Illinois	

# MW-D3 RISING-HEAD PERMEABILITY TEST



<b>DATA SET:</b> MW D3. DAT 12/21/95	<b>AQUIFER TYPE:</b> Unconfined <b>SOLUTION METHOD:</b> Bouwer - Rice <b>TEST DATE:</b> 12-20-95 <b>TEST WELL:</b> MW D3	<b>ESTIMATED PARAMETERS:</b> $K = 8.8167E-06 \text{ ft/min}$ $y0 = 1.573 \text{ ft}$
<b>TEST DATA:</b> $H0 = 2. \text{ ft}$ $rc = 0.083 \text{ ft}$ $rw = 0.33 \text{ ft}$ $L = 10. \text{ ft}$ $b = 10. \text{ ft}$ $H = 10. \text{ ft}$		$K = 3.4 \times 10^{-6} \text{ cm/sec}$

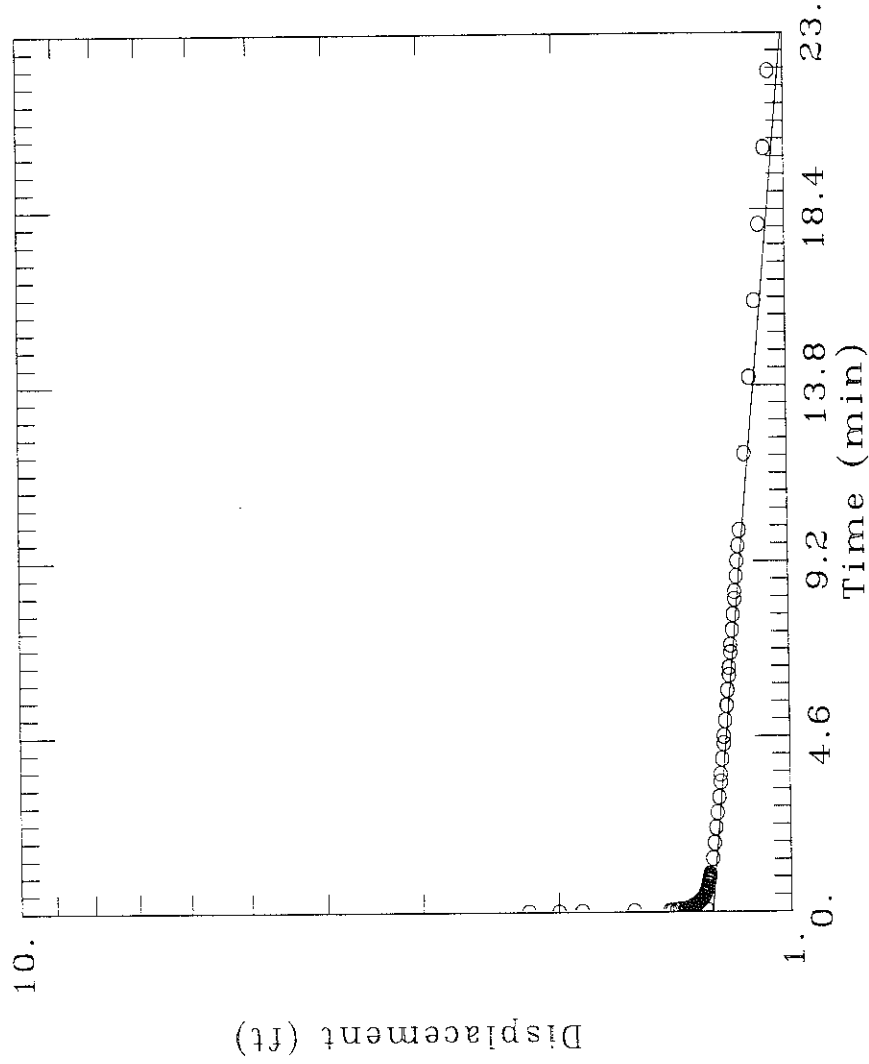
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - CECO

Project No.: 9236A

Location: Lemont, Illinois

## MW-D4 RISING-HEAD PERMEABILITY TEST



### DATA SET:

MW D4. DAT

12/21/95

### AQUIFER TYPE:

Unconfined

### SOLUTION METHOD:

Bouwer - Rice

### TEST DATE:

12-20-95

### TEST WELL:

MW D4

### ESTIMATED PARAMETERS:

$K = 8.8359E-06$  ft/min

$y_0 = 1.264$  ft

### TEST DATA:

$H_0 = 2.1$  ft

$r_c = 0.083$  ft

$r_w = 0.33$  ft

$L = 10.1$  ft

$b = 10.1$  ft

$H = 10.1$  ft

$K = 4.4 \times 10^{-6}$  cm/sec

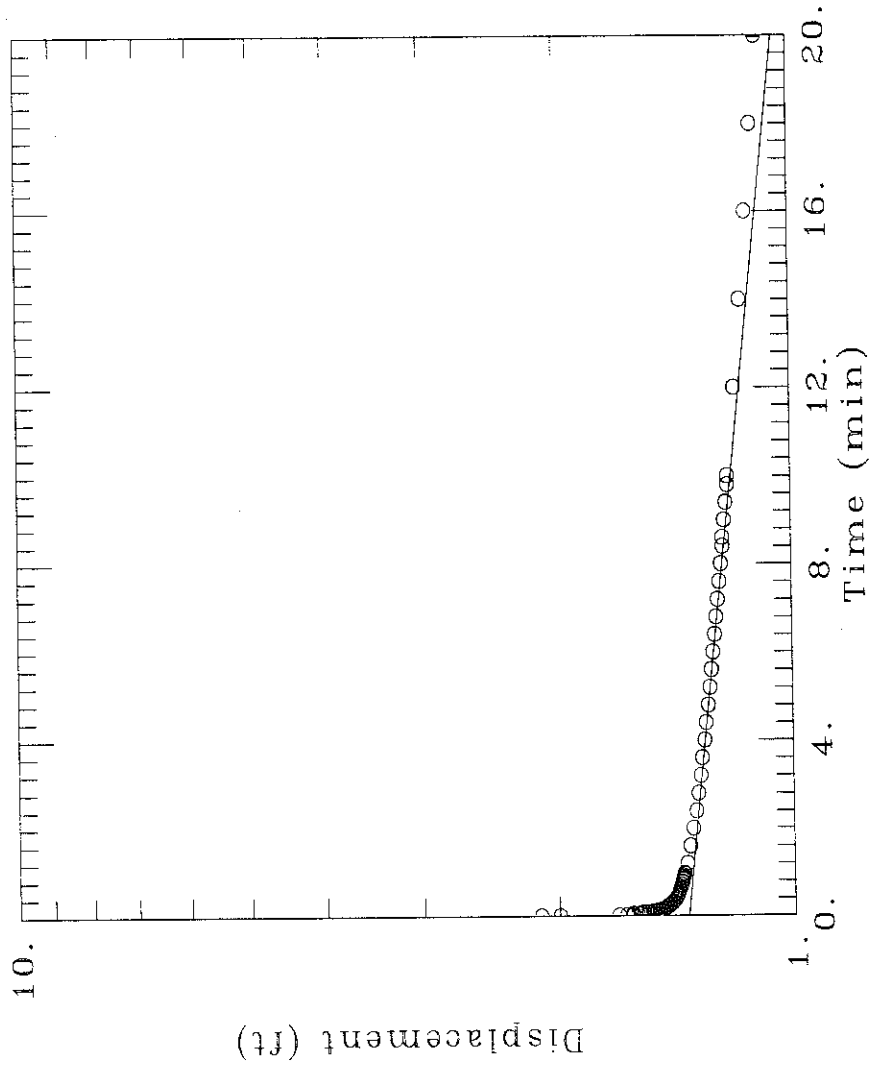
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - CECO

Project No.: 9236A

Location: Lemont, Illinois

### MW-D5 RISING-HEAD PERMEABILITY TEST



**DATA SET:**

mw-d5.dat

12/21/95

**AQUIFER TYPE:**

Unconfined

**SOLUTION METHOD:**

Bouwer-Rice

**TEST DATE:**

12-20-95

**TEST WELL:**

MW D5

**ESTIMATED PARAMETERS:**

$K = 1.2042E-05 \text{ ft/min}$

$y_0 = 1.367 \text{ ft}$

**TEST DATA:**

$H_0 = 2. \text{ ft}$

$rc = 0.083 \text{ ft}$

$rw = 0.33 \text{ ft}$

$L = 10. \text{ ft}$

$b = 10. \text{ ft}$

$H = 10. \text{ ft}$

$K = 6.1 \times 10^{-6} \text{ cm/sec}$

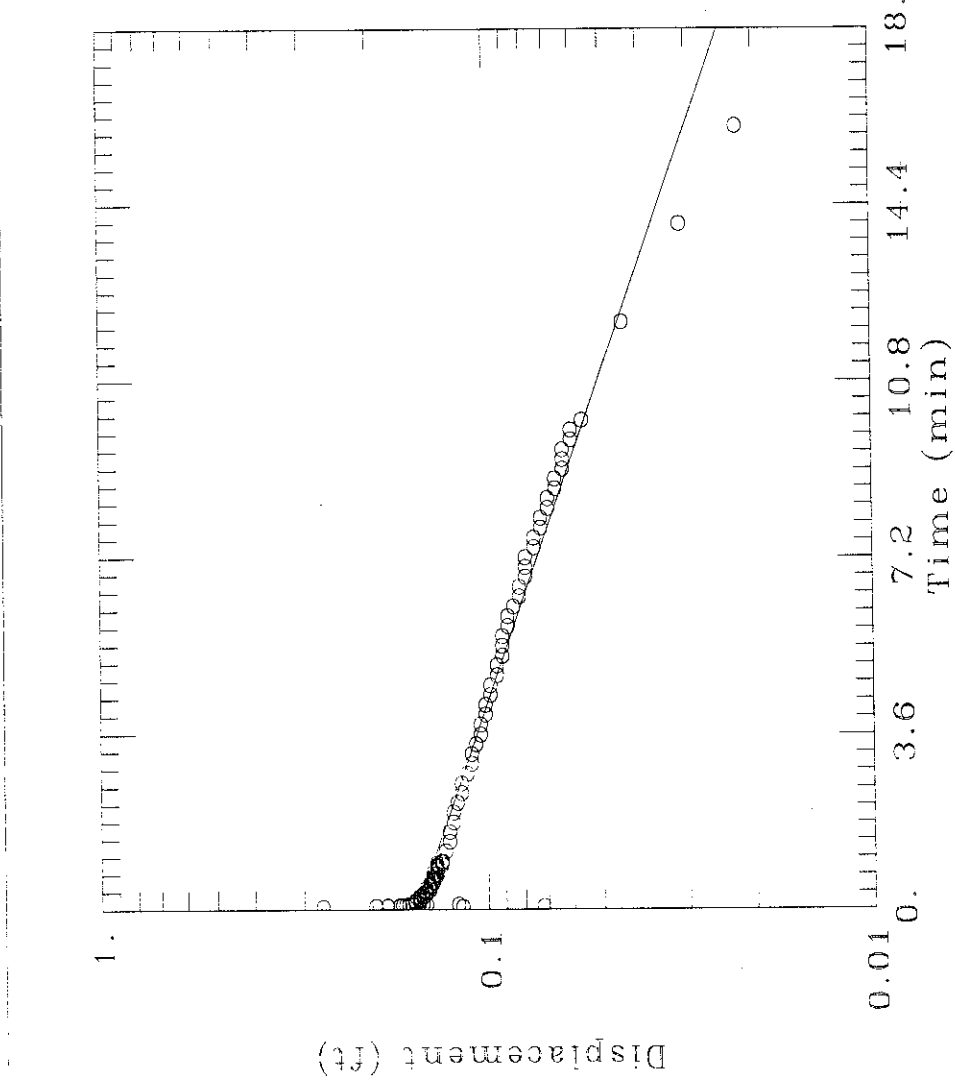
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - Ceco

Project No.: 9236A

Location: Lemont, Illinois

## OW #1 RISING-HEAD PERMEABILITY TEST



### DATA SET:

ow-1.dat  
01/19/96

### AQUIFER TYPE:

Unconfined

### SOLUTION METHOD:

Bouwer-Rice

### TEST DATE:

1-17-96

### TEST WELL:

OW 1

### ESTIMATED PARAMETERS:

$K = 9.759E-05$  ft/min  
 $y_0 = 0.1538$  ft

### TEST DATA:

$H_0 = 2$  ft  
 $rc = 0.167$  ft  
 $rw = 0.417$  ft  
 $L = 50$  ft  
 $b = 50$  ft  
 $H = 45$  ft  
 $K = 4.95 \times 10^{-5}$  cm/sec



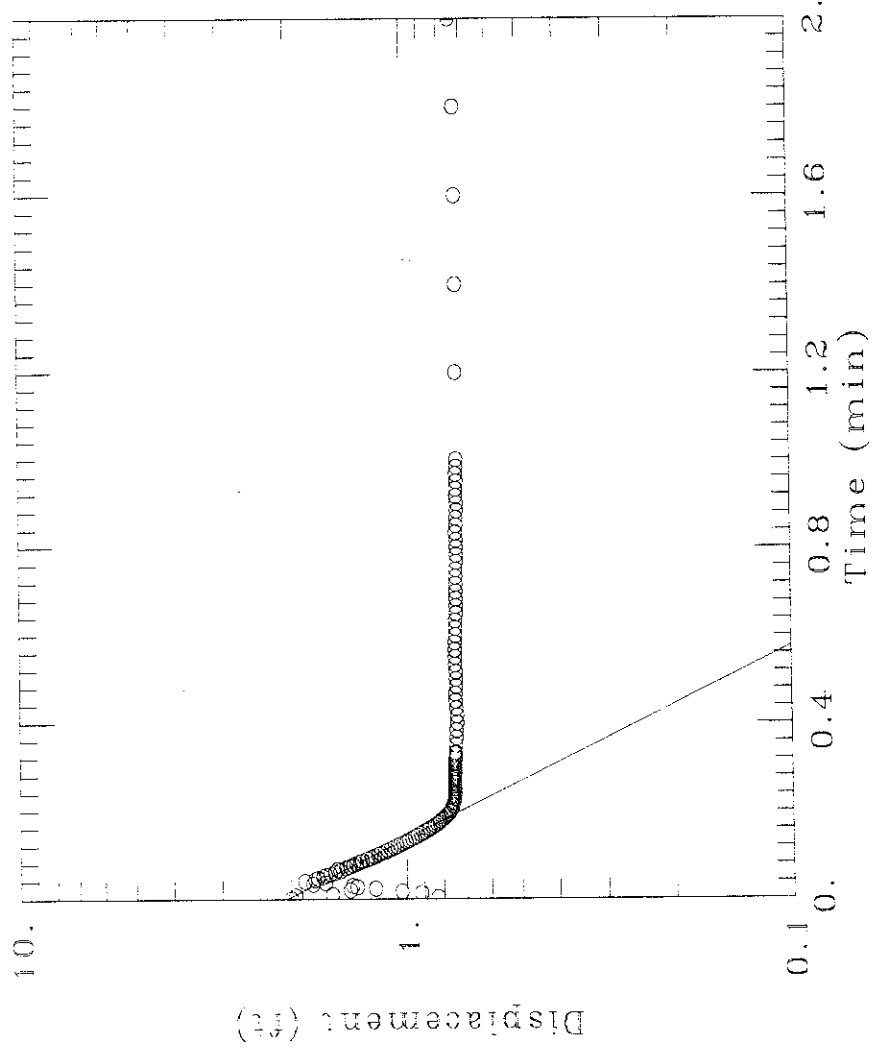
CHARLSON ENVIRONMENTAL, INC.

Client: Robertson - Ceco

Project No.: 9236A

Location: Lemont, Illinois

## OW #2 RISING-HEAD PERMEABILITY TEST



### DATA SET:

ow-2.dal

01/19/96

### AQUIFER TYPE:

Unconfined

### SOLUTION METHOD:

Bouwer-Rice

### TEST DATE:

1-17-96

### TEST WELL:

OW 2

### ESTIMATED PARAMETERS:

$K = 0.005013 \text{ ft/min}$

$y_0 = 2.05 \text{ ft}$

### TEST DATA:

$H_0 = 2. \text{ ft}$

$r_c = 0.167 \text{ ft}$

$r_w = 0.417 \text{ ft}$

$L = 50. \text{ ft}$

$b = 50. \text{ ft}$

$H = 45. \text{ ft}$

$K = 2.55 \times 10^{-3} \text{ cm/sec}$

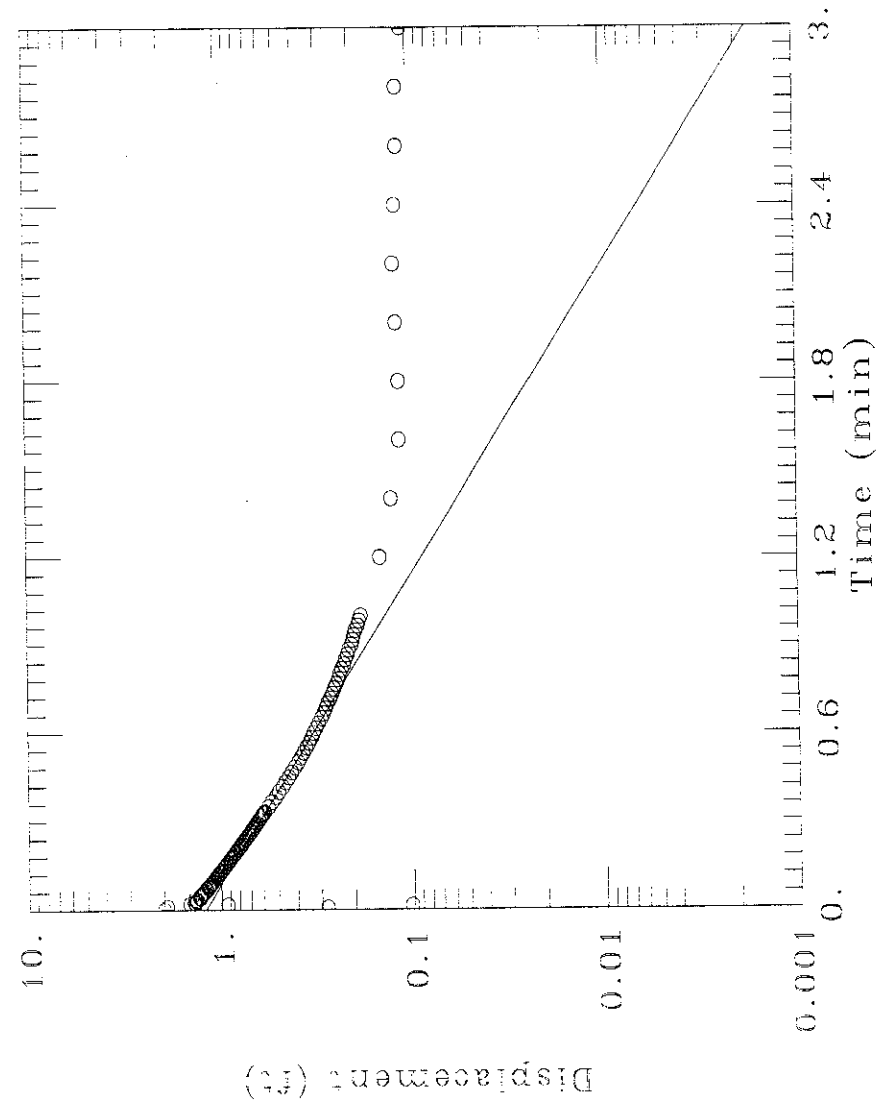
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - Ceco

Project No.: 9236A

Location: Lemont, Illinois

OW #3 RISING-HEAD PERMEABILITY TEST



DATA SET:

ow-3.dat

01/19/96

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

1-17-96

TEST WELL:

OW 3

ESTIMATED PARAMETERS:

$K = 0.002085$  ft/min

$y_0 = 1.213$  ft

TEST DATA:

$H_0 = 2$  ft

$rc = 0.167$  ft

$rw = 0.417$  ft

$L = 50$  ft

$b = 50$  ft

$H = 45$  ft

$K = 1.06 \times 10^{-3}$  cm/sec

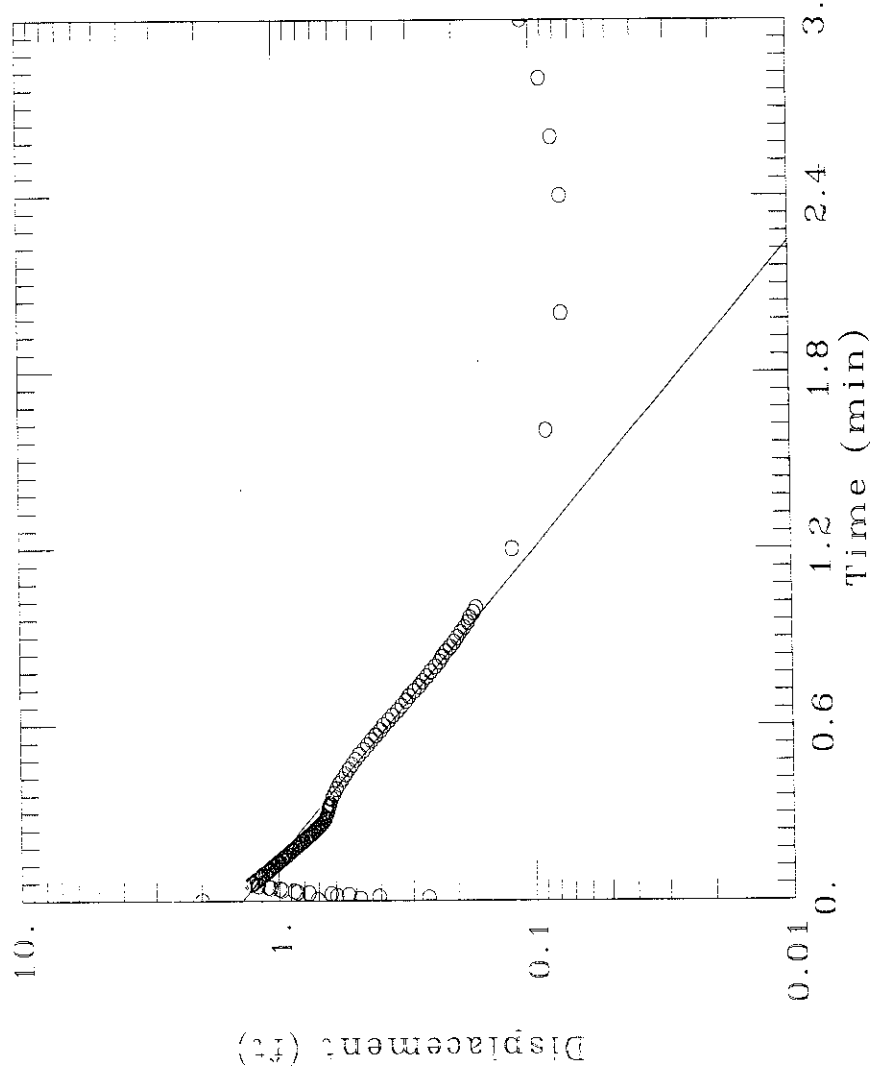
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - Ceco

Project No.: 9236A

Location: Lemont, Illinois

# OW #4 RISING-HEAD PERMEABILITY TEST



## DATA SET:

OW 4, DAT

01/19/96

## AQUIFER TYPE:

Unconfined

## SOLUTION METHOD:

Bouwer - Rice

## TEST DATE:

1-17-96

## TEST WELL:

OW 4

## ESTIMATED PARAMETERS:

$K = 0.002099 \text{ ft/min}$

$y_0 = 1.386 \text{ ft}$

## TEST DATA:

$H_0 = 2. \text{ ft}$

$r_c = 0.167 \text{ ft}$

$r_w = 0.417 \text{ ft}$

$L = 50. \text{ ft}$

$b = 50. \text{ ft}$

$H = 45. \text{ ft}$

$K = 1.07 \times 10^{-3} \text{ cm/sec}$

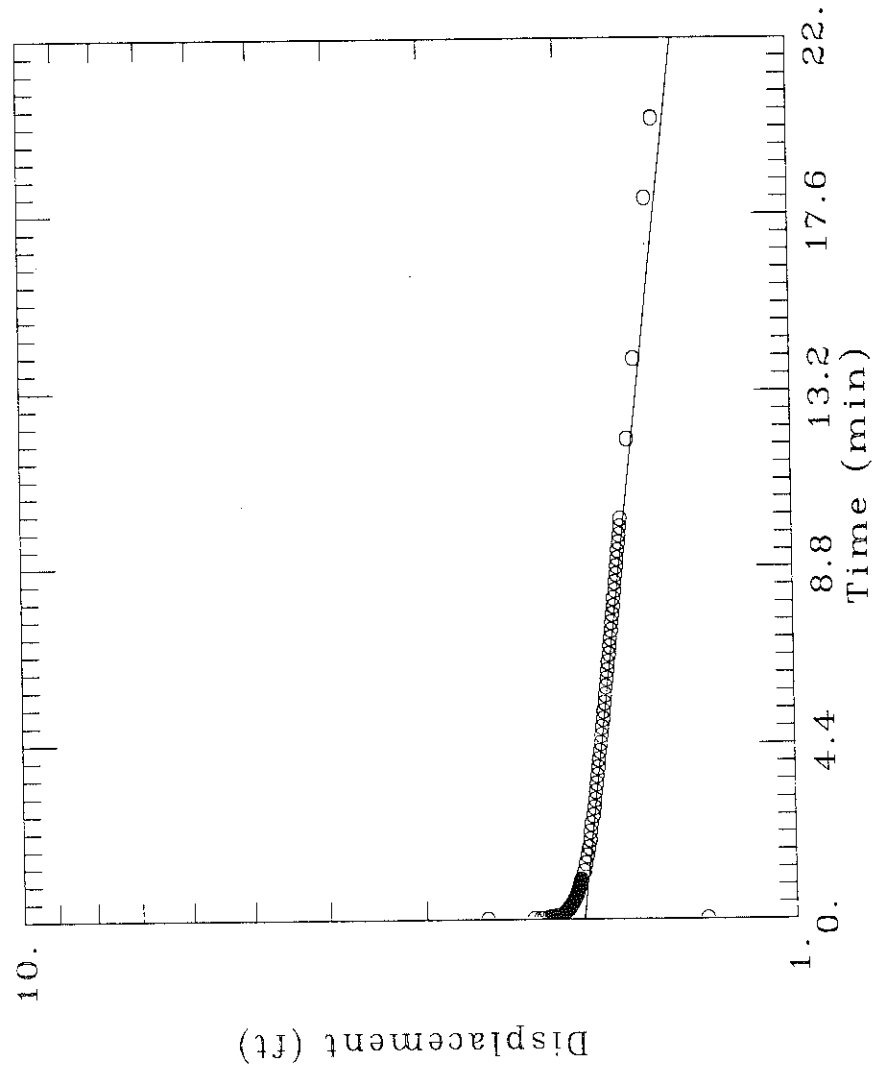
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - CECO

Project No.: 9236A

Location: Lemont, Illinois

## WELL-B RISING-HEAD PERMEABILITY TEST



### DATA SET:

well - b. dat

12/22/95

### AQUIFER TYPE:

Unconfined

### SOLUTION METHOD:

Bouwer - Rice

### TEST DATE:

12-20-95

### TEST WELL:

Well - B

### ESTIMATED PARAMETERS:

$K = 1.1722E-05$  ft/min

$y_0 = 1.882$  ft

### TEST DATA:

$H_0 = 2.$  ft

$r_c = 0.083$  ft

$r_w = 0.33$  ft

$L = 10.$  ft

$b = 10.$  ft

$H = 10.$  ft

$K = 5.9 \times 10^{-6}$  cm/sec

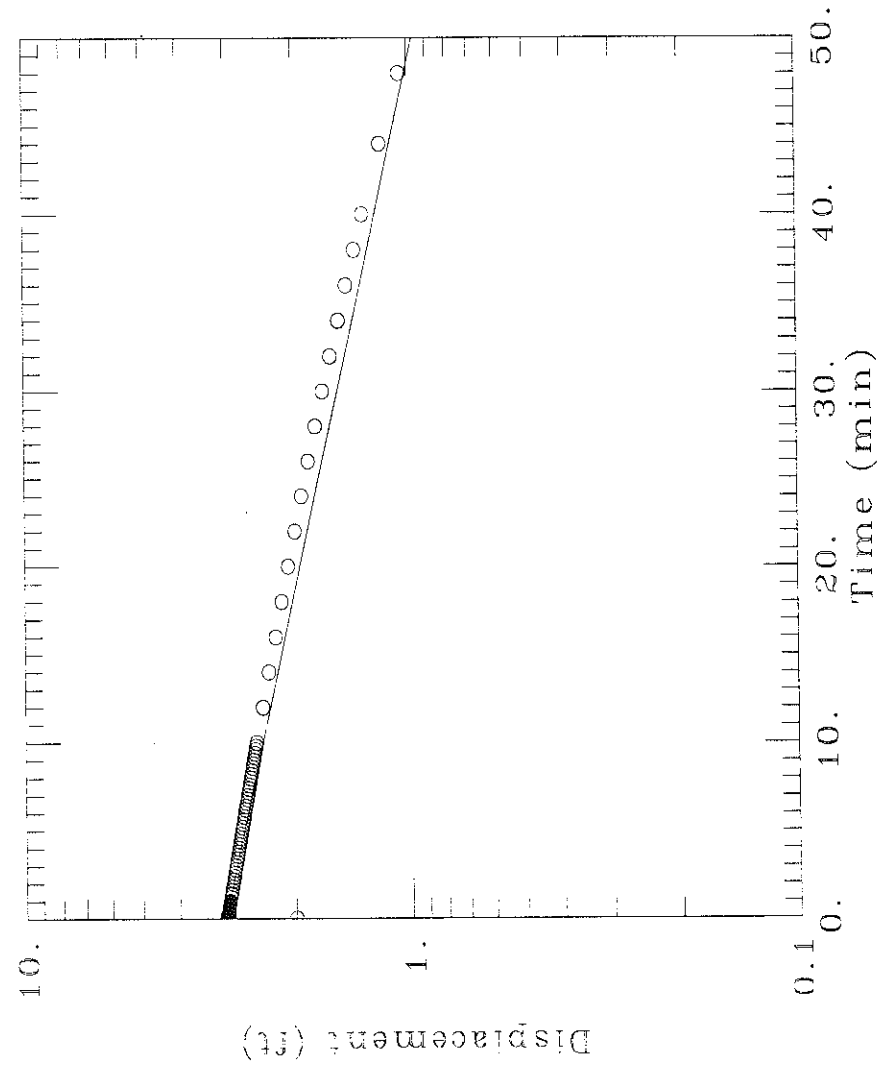
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - Ceco

Project No.: 9236A

Location: Lemont, Illinois

WELL-C RISING-HEAD PERMEABILITY TEST



DATA SET:  
WELL-C.DAT  
01/19/96

AQUIFER TYPE:  
Unconfined

SOLUTION METHOD:  
Bouwer-Rice

TEST DATE:  
1-17-96

TEST WELL:  
WELL-C

ESTIMATED PARAMETERS:  
 $K = 3.3231E-05$  ft/min  
 $y_0 = 3.05$  ft

TEST DATA:  
 $H_0 = 2.$  ft  
 $r_c = 0.083$  ft  
 $r_w = 0.33$  ft  
 $L = 5.$  ft  
 $b = 20.$  ft  
 $H = 15.$  ft

$K = 1.68 \times 10^{-5}$  cm/sec

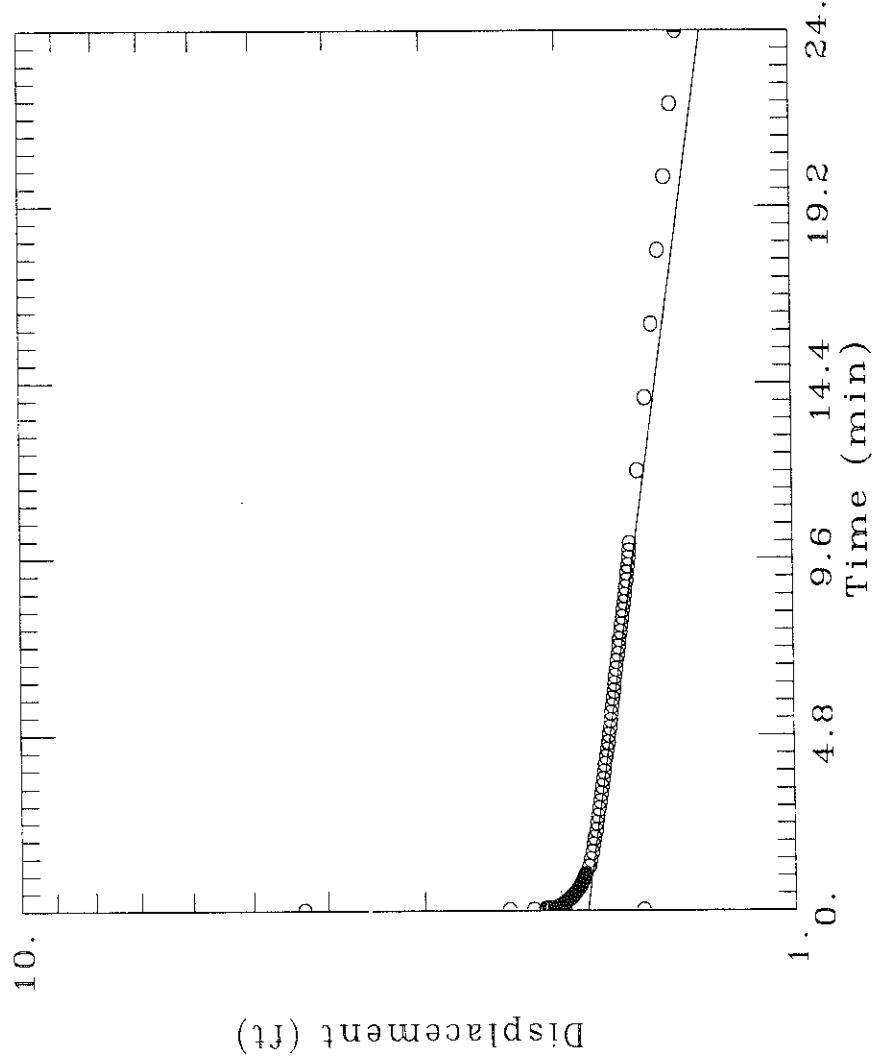
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - CECO

Project No.: 9236A

Location: Lemont, Illinois

# WELL-D RISING-HEAD PERMEABILITY TEST



## DATA SET:

well-d.dat  
12/22/95

## AQUIFER TYPE:

Unconfined

## SOLUTION METHOD:

Bouwer-Rice

## TEST DATE:

12-20-95

## TEST WELL:

Well-D

## ESTIMATED PARAMETERS:

K = 1.3058E-05 ft/min  
y0 = 1.648 ft

## TEST DATA:

H0 = 2. ft  
rc = 0.083 ft  
rw = 0.33 ft  
L = 10. ft  
b = 10. ft  
H = 10. ft

K = 6.6 x 10<sup>-6</sup> cm/sec

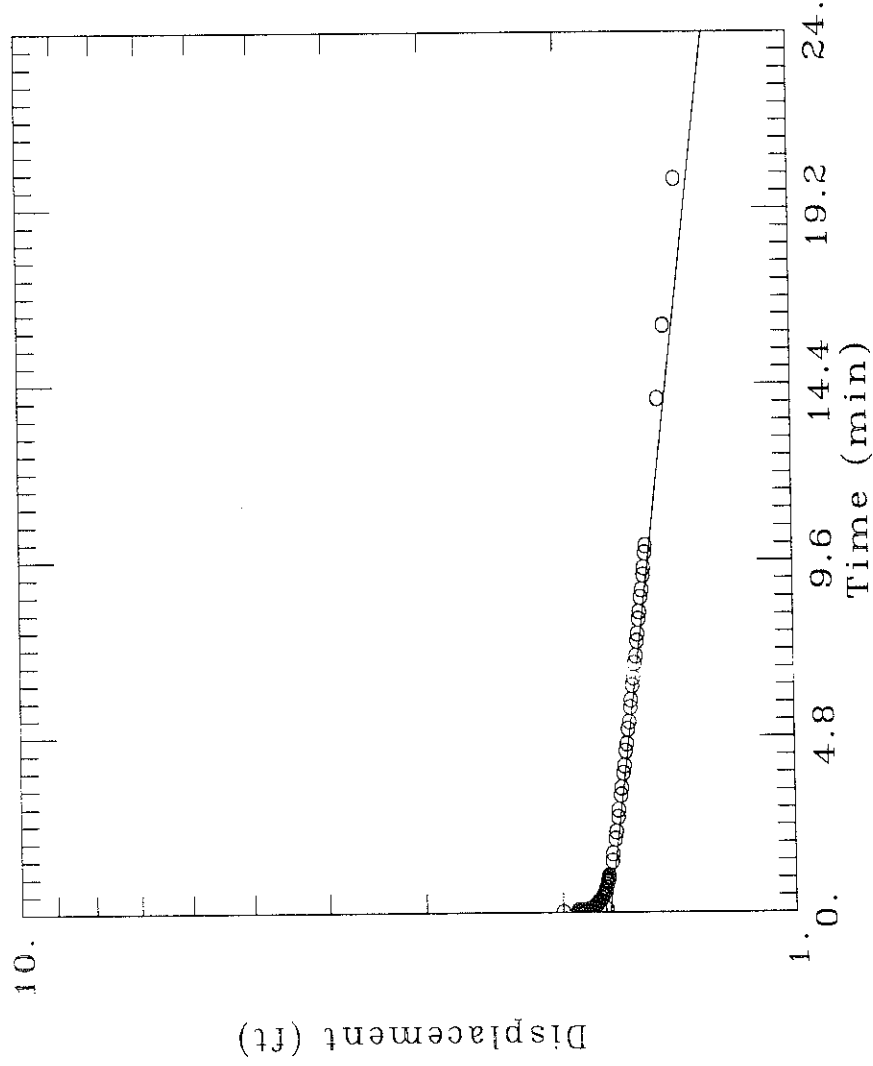
CARLSON ENVIRONMENTAL, INC.

Client: Robertson - CECO

Project No.: 9236A

Location: Lemont, Illinois

## WELL-J RISING-HEAD PERMEABILITY TEST



### DATA SET:

WELL- J. DAT

12/22/95

### AQUIFER TYPE:

Unconfined

### SOLUTION METHOD:

Bouwer - Rice

### TEST DATE:

12-20-95

### TEST WELL:

WELL- J

### ESTIMATED PARAMETERS:

$K = 1.1262E-05 \text{ ft/min}$

$y_0 = 1.739 \text{ ft}$

### TEST DATA:

$H_0 = 2. \text{ ft}$

$rc = 0.083 \text{ ft}$

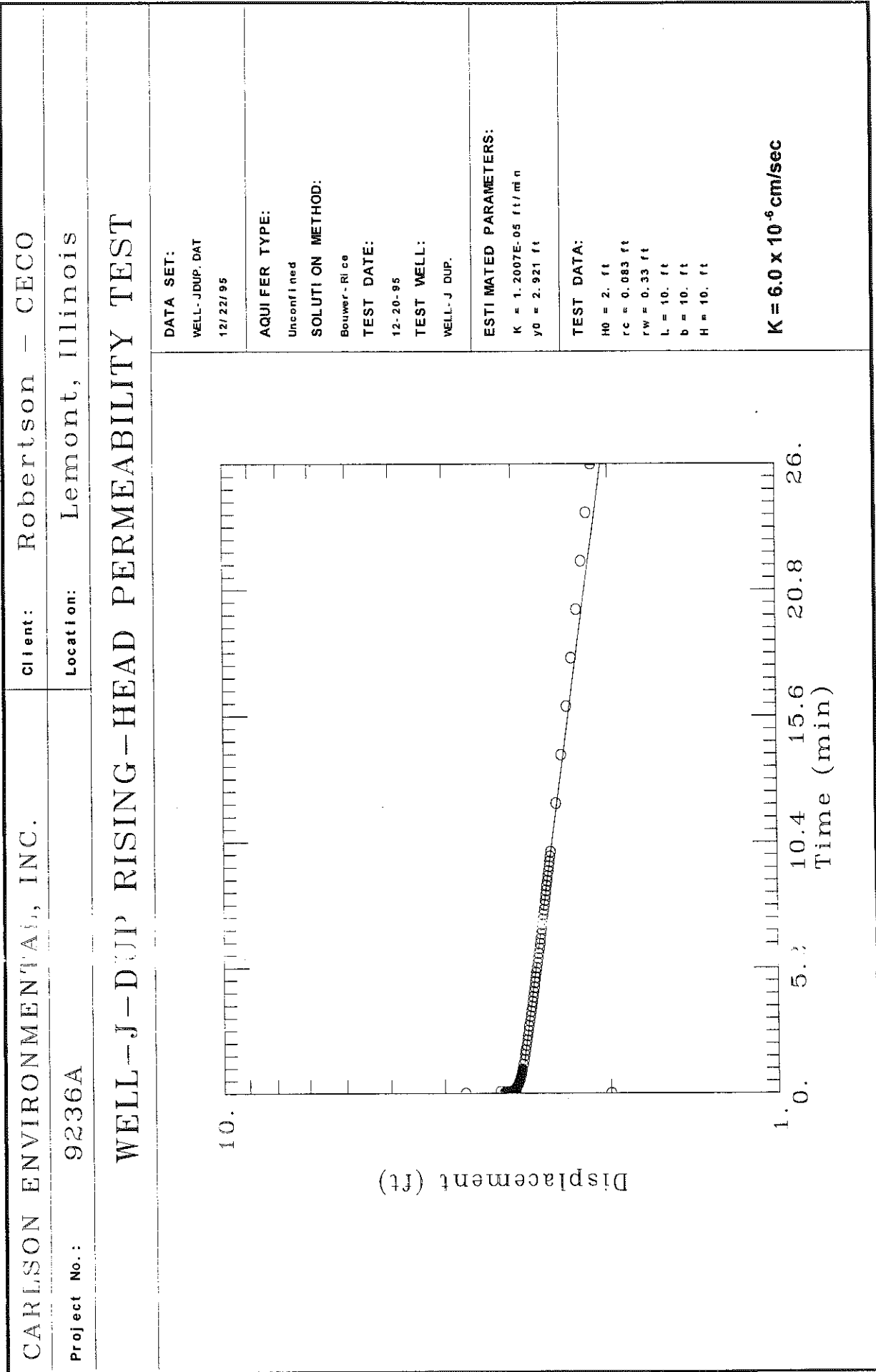
$rw = 0.33 \text{ ft}$

$L = 10. \text{ ft}$

$b = 10. \text{ ft}$

$H = 10. \text{ ft}$

$K = 5.7 \times 10^{-6} \text{ cm/sec}$





CARLSON ENVIRONMENTAL, INC.

Client: Robertson

Ceco

Project No.: 9236A

Location: Lemont, Illinois

## WELL-K RISING-HEAD PERMEABILITY TEST

DATA SET:  
WELL-K DAT  
01/19/96

AQUIFER TYPE:  
Unconfined

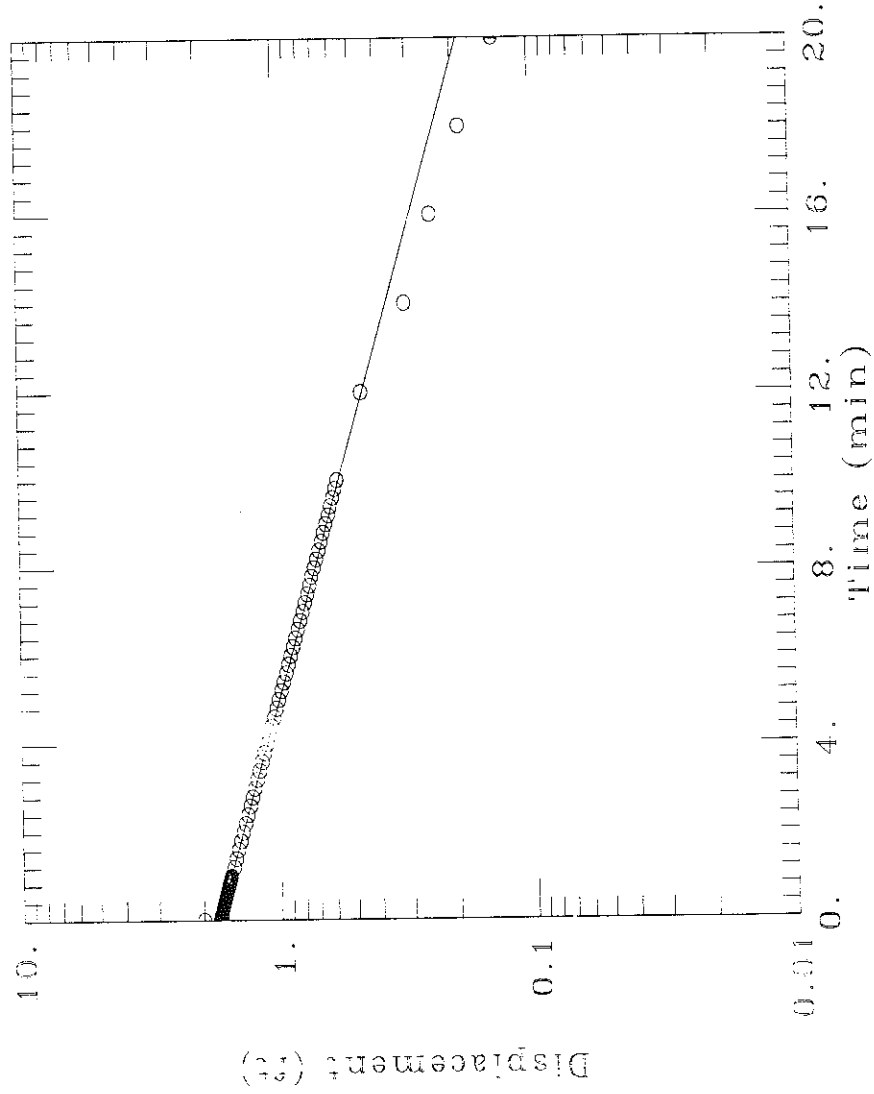
SOLUTION METHOD:  
Bouwer-Rice

TEST DATE:  
1-17-96

TEST WELL:  
WELL-K

ESTIMATED PARAMETERS:  
 $K = 0.0001605 \text{ ft/min}$   
 $y_0 = 1.732 \text{ ft}$

TEST DATA:  
 $H_0 = 2. \text{ ft}$   
 $rc = 0.083 \text{ ft}$   
 $rw = 0.33 \text{ ft}$   
 $L = 5. \text{ ft}$   
 $b = 20. \text{ ft}$   
 $H = 15. \text{ ft}$   
 $K = 8.15 \times 10^{-5} \text{ cm/sec}$



**ATTACHMENT D**

**LABORATORY ANALYTICAL REPORTS**

**SOIL / SEDIMENT SAMPLE**  
**LABORATORY REPORTS**

Date: December 18, 1995

Olson Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Project: #9236A, Robertsson-Ceco

Enclosed are the results from 12 soil samples received at Great Lakes Analytical on December 11, 1995. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5120998	Soil: SB-01A	12/11/95	Total Metals, Long List
5120999	Soil: SB-01B	12/11/95	Total Metals, Short List
5121000	Soil: SB-01C	12/11/95	Total Metals, Short List
5121003	Soil: SB-02A	12/11/95	Total Metals, Long List
5121004	Soil: SB-02B	12/11/95	Total Metals, Short List
5121005	Soil: SB-02D	12/11/95	Total Metals, Short List
5121007	Soil: SB-03A	12/11/95	Total Metals, Short List
5121008	Soil: SB-03B	12/11/95	Total Metals, Short List
5121009	Soil: SB-03C	12/11/95	Total Metals, Long List
5121016	Soil: SB-04B	12/11/95	Total Metals, Short List
5121017	Soil: SB-04C	12/11/95	Total Metals, Long List
5121019	Soil: SB-04F	12/11/95	Total Metals, Short List

This report may not be reproduced, except in full, without the written approval of the laboratory.

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL



Kevin W. Keeley  
Laboratory Director

Date: December 19, 1995

Ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Project: 9236A, Robertson Ceco - Lemont, IL

Enclosed are the results from 24 soil samples and 2 water samples received at Great Lakes Analytical  
on December 12, 1995. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121120	Soil: SB-05D	12/12/95	Total Metals, Short List
5121122	Soil: SB-05F	12/12/95	Total Metals, Short List
5121123	Soil: SB-05G	12/12/95	Total Metals, Long List
5121124	Soil: SB-06A	12/12/95	Total Metals, Short List
5121125	Soil: SB-06B	12/12/95	Total Metals, Long List
5121126	Soil: PS-01	12/12/95	Total Metals, Long List
5121127	Soil: PS-02	12/12/95	Total Metals, Long List
5121128	Soil: PS-03	12/12/95	Total Metals, Long List
5121129	Soil: PS-04	12/12/95	Total Metals, Long List
5121130	Soil: SB-7A	12/12/95	Total Metals, Short List
5121131	Soil: SB-7B	12/12/95	Total Metals, Long List
5121132	Soil: SB-7C	12/12/95	Total Metals, Short List
5121135	Water: WS-02	12/12/95	Total Metals, Long List
5121136	Water: WS-05	12/12/95	Total Metals, Long List
5121139	Soil: SB-09C	12/12/95	Total Metals, Short List
5121140	Soil: SB-09D	12/12/95	Total Metals, Short List
5121141	Soil: SB-09E	12/12/95	Total Metals, Long List
5121142	Soil: SS-01	12/12/95	Total Metals, Long List

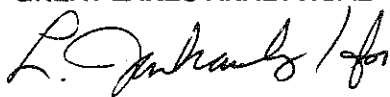
MPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121143	Soil: SS-02	12/12/95	Total Metals, Long List
5121144	Soil: SS-03	12/12/95	Total Metals, Long List
5121145	Soil: SS-04	12/12/95	Total Metals, Long List
5121146	Soil: SS-05	12/12/95	Total Metals, Long List
5121147	Soil: SS-06	12/12/95	Total Metals, Long List
5121149	Soil: SB-08C	12/12/95	Total Metals, Short List
5121150	Soil: SB-08D	12/12/95	Total Metals, Short List
5121151	Soil: SB-08F	12/12/95	Total Metals, Long List

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL



Kevin W. Keeley  
Laboratory Director

Date: December 20, 1995

Carlson Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Project: 9236A, Robertson Ceco - Lemont, IL

Enclosed are the results from 18 soil samples received at Great Lakes Analytical on December 13, 1995. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121222	Soil: SB-10B	12/13/95	Total Metals, Long List
5121223	Soil: SB-10C	12/13/95	Total Metals, Short List
5121224	Soil: SB-10E	12/13/95	Total Metals, Short List
5121227	Soil: Dup - 1B	12/13/95	Total Metals, Long List
5121228	Soil: Dup - 1C	12/13/95	Total Metals, Short List
5121229	Soil: Dup - 1E	12/13/95	Total Metals, Short List
5121230	Soil: SB - 11A	12/13/95	Total Metals, Short List
5121232	Soil: SB - 11C	12/13/95	Total Metals, Long List
5121233	Soil: SB - 11D	12/13/95	Total Metals, Short List
5121236	Soil: SB - 12A	12/13/95	Total Metals, Short List
5121237	Soil: SB - 12B	12/13/95	Total Metals, Long List
5121238	Soil: SB - 12C	12/13/95	Total Metals, Short List
5121246	Soil: SB - 13B	12/13/95	Total Metals, Short List
5121247	Soil: SB - 13C	12/13/95	Total Metals, Long List
5121248	Soil: SB - 13D	12/13/95	Total Metals, Short List
5121252	Soil: SB - 14B	12/12/95	Total Metals, Short List
5121253	Soil: SB - 14C	12/12/95	Total Metals, Short List
5121254	Soil: SB - 14D	12/12/95	Total Metals, Long List

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

**GREAT LAKES ANALYTICAL**

A handwritten signature in black ink, appearing to read "L. J. Keeley" or similar, with a stylized flourish at the end.

Kevin W. Keeley  
Laboratory Director





Date: December 21, 1995

ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Project: #9236A, Robettson-Ceco

Enclosed are the results from 22 soil samples received at Great Lakes Analytical on December 14, 1995. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121283	Soil: SB-15A	12/14/95	Total Metals, Short List
5121285	Soil: SB-15C	12/14/95	Total Metals, Long List
5121286	Soil: SB-15D	12/14/95	Total Metals, Short List
5121289	Soil: Dup-2C	12/14/95	Total Metals, Long List
5121290	Soil: Dup-2A	12/14/95	Total Metals, Short List
5121291	Soil: Dup-2D	12/14/95	Total Metals, Short List
5121292	Soil: SB-16A	12/14/95	Total Metals, Short List
5121293	Soil: SB-16B	12/14/95	Total Metals, Long List
5121294	Soil: SB-16C	12/14/95	Total Metals, Short List
5121297	Soil: SB-17A	12/14/95	Total Metals, Short List
5121298	Soil: SB-17B	12/14/95	Total Metals, Long List
5121299	Soil: SB-18A	12/14/95	Total Metals, Long List
5121300	Soil: SB-18B	12/14/95	Total Metals, Short List
5121301	Soil: SB-19A	12/14/95	Total Metals, Long List
5121302	Soil: SB-19B	12/14/95	Total Metals, Short List
5121303	Soil: SB-19C	12/14/95	Total Metals, Short List
5121305	Soil: SB-20A	12/14/95	Total Metals, Long List
5121306	Soil: SB-20B	12/14/95	Total Metals, Short List

MPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121307	Soil: SB-20D	12/14/95	Total Metals, Short List
5121308	Soil: SB-21A	12/14/95	Total Metals, Short List
5121309	Soil: SB-21B	12/14/95	Total Metals, Long List
5121310	Soil: SB-21C	12/14/95	Total Metals, Short List

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

y truly yours,

**GREAT LAKES ANALYTICAL**



Kevin W. Keeley  
Laboratory Director

Date: December 22, 1995

Carlson Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Project: 9236A,Robertson-CECO-Lemont, IL

Enclosed are the results from 21 soil samples received at Great Lakes Analytical on December 15, 1995. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121317	Soil: SB-22A	12/15/95	Total Metals, Short List
5121318	Soil: SB-22B	12/15/95	Total Metals, Long List
5121319	Soil: SB-22D	12/15/95	Total Metals, Short List
5121321	Soil: SB-23A	12/15/95	Total Metals, Long List
5121322	Soil: SB-23B	12/15/95	Total Metals, Short List
5121323	Soil: SB-23C	12/15/95	Total Metals, Short List
5121324	Soil: SB-24A	12/15/95	Total Metals, Short List
5121325	Soil: SB-24B	12/15/95	Total Metals, Short List
5121326	Soil: SB-24C	12/15/95	Total Metals, Long List
5121327	Soil: SB-25A	12/15/95	Total Metals, Long List
5121328	Soil: SB-25B	12/15/95	Total Metals, Short List
5121329	Soil: SB-25C	12/15/95	Total Metals, Short List
5121330	Soil: SB-26A	12/15/95	Total Metals, Long List
5121331	Soil: SB-26B	12/15/95	Total Metals, Short List
5121332	Soil: SB-26C	12/15/95	Total Metals, Short List
5121333	Soil: Dup 3A	12/15/95	Total Metals, Short List
5121334	Soil: Dup 3B	12/15/95	Total Metals, Long List
5121335	Soil: Dup 3D	12/15/95	Total Metals, Short List
5121336	Soil: Dup 4A	12/15/95	Total Metals, Short List

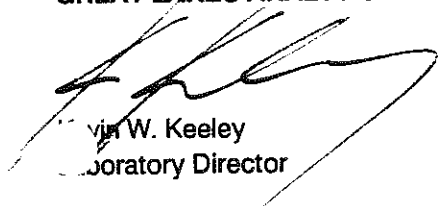
SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121337	Soil: Dup 4B	12/15/95	Total Metals, Short List
5121338	Soil: Dup 4C	12/15/95	Total Metals, Long List

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

**GREAT LAKES ANALYTICAL**



Kevin W. Keeley  
Laboratory Director



Date: April 1, 1996

son Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Project: 9236A, Robertson, CECO Corp.

Enclosed are the results from 4 soil samples and 4 water samples received at Great Lakes Analytical on Mar 25, 1996. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
6031599	Soil: SS-7	3/25/96	Total Metals
6031600	Water: WS-7	3/25/96	Total Metals
6031601	Soil: SS-8	3/25/96	Total Metals
6031602	Soil: SS-9	3/25/96	Total Metals
6031603	Water: WS-8	3/25/96	Total Metals
6031604	Water: WS-9	3/25/96	Total Metals
6031605	Water: WS-10	3/25/96	Total Metals
6031606	Soil: SS-10	3/25/96	Total Metals


The Soil Lead and the Water Silver Matrix QC was outside established Control Limits. Recoveries are reported on pages 9-12.

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

**GREAT LAKES ANALYTICAL**

  
John W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Date: December 27, 1995

son Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Project: 9236A, Robertson - Ceco

Enclosed are the results from 6 soil samples received at Great Lakes Analytical on December 20, 1995. The requested analyses are listed below:


SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
5121693	Soil: SB-27A	12/20/95	Total Metals, Short List
5121694	Soil: SB-27B	12/20/95	Total Metals, Long List
5121695	Soil: SB-27C	12/20/95	Total Metals, Short List
5121701	Soil: SB-28A	12/20/95	Total Metals, Long List
5121702	Soil: SB-28B	12/20/95	Total Metals, Short List
5121704	Soil: SB-28D	12/20/95	Total Metals, Short List

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

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Laboratory Director



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son Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robertsson-Ceco  
Sample Descript: Soil: SB-01A  
Lab Number: 512-0998

Sampled: Dec 11, 1995  
Received: Dec 11, 1995  
Analyzed: Dec 14-15, 1995  
Reported: Dec 18, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	6.0
Barium.....	3050/6010	25	310
Beryllium.....	3050/6010	0.50	0.62
Cadmium.....	3050/6010	0.50	3.7
Chromium.....	3050/6010	0.50	1,300
Lead.....	3050/7421	5.0	220
Mercury.....	7471	0.040	0.16
Nickel.....	3050/6010	2.5	36
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	0.50	210
Zinc.....	3050/6010	25	580

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
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5120998.CAR &lt;1&gt;



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Johnson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robertsson-Ceco  
Sample Descript: Soil: SB-01B  
Lab Number: 512-0999

Sampled: Dec 11, 1995  
Received: Dec 11, 1995  
Analyzed: Dec 12-15, 1995  
Reported: Dec 18, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	2.4
Hexavalent Chromium.....	7196	2.0	N.D.
Lead.....	3050/6010	5.0	95

Analytes reported as N.D. were not present above the stated limit of detection.

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Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robertsson-Ceco  
Sample Descript: Soil: SB-01C  
Lab Number: 512-1000

Sampled: Dec 11, 1995  
Received: Dec 11, 1995  
Analyzed: Dec 12-15, 1995  
Reported: Dec 18, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	14
Hexavalent Chromium.....	7196	2.0	N.D.
Lead.....	3050/6010	5.0	330

Analytes reported as N.D. were not present above the stated limit of detection.

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Client Project ID: #9236A, Robertsson-Ceco  
Sample Descript: Soil: SB-02A  
Lab Number: 512-1003

Sampled: Dec 11, 1995  
Received: Dec 11, 1995  
Analyzed: Dec 14-15, 1995  
Reported: Dec 18, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	N.D.
<b>Barium</b> .....	<b>3050/6010</b>	<b>25</b>	<b>390</b>
Beryllium.....	3050/6010	0.50	N.D.
<b>Cadmium</b> .....	<b>3050/6010</b>	<b>0.50</b>	<b>1.4</b>
<b>Chromium</b> .....	<b>3050/6010</b>	<b>0.50</b>	<b>2,300</b>
<b>Lead</b> .....	<b>3050/7421</b>	<b>5.0</b>	<b>48</b>
Mercury.....	7471	0.040	N.D.
<b>Nickel</b> .....	<b>3050/6010</b>	<b>2.5</b>	<b>34</b>
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
<b>Vanadium</b> .....	<b>3050/6010</b>	<b>0.50</b>	<b>330</b>
<b>Zinc</b> .....	<b>3050/6010</b>	<b>25</b>	<b>1,400</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

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22 W. Randolph Street  
Chicago, IL 60606  
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Client Project ID: #9236A, Robertsson-Ceco  
Sample Descript: Soil: SB-02B  
Lab Number: 512-1004

Sampled: Dec 11, 1995  
Received: Dec 11, 1995  
Analyzed: Dec 12-15, 1995  
Reported: Dec 18, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	0.96
Hexavalent Chromium.....	7196	2.0	N.D.
Lead.....	3050/6010	5.0	42

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
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5120998.CAR <7>



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Attention: Ed Garske

Client Project ID: #9236A, Robertsson-Ceco  
Sample Descript: Soil: SB-02D  
Lab Number: 512-1005

Sampled: Dec 11, 1995  
Received: Dec 11, 1995  
Analyzed: Dec 12-15, 1995  
Reported: Dec 18, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	N.D.
Hexavalent Chromium.....	7196	2.0	N.D.
<b>Lead .....</b>	<b>3050/6010</b>	<b>5.0</b>	<b>19</b>

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
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Client Project ID: #9236A, Robertsson-Ceco  
Sample Descript: Soil: SB-03A  
Lab Number: 512-1007

Sampled: Dec 11, 1995  
Received: Dec 11, 1995  
Analyzed: Dec 12-15, 1995  
Reported: Dec 18, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.20	36
Hexavalent Chromium.....	7196	2.0	N.D.
Lead.....	3050/6010	5.0	1,200

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

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Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robertsson-Ceco  
Sample Descript: Soil: SB-03B  
Lab Number: 512-1008

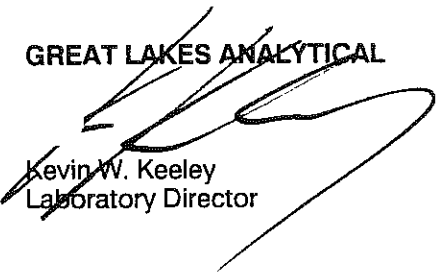
Sampled: Dec 11, 1995  
Received: Dec 11, 1995  
Analyzed: Dec 12-15, 1995  
Reported: Dec 18, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.20	11
Hexavalent Chromium.....	7196	2.0	N.D.
Lead.....	3050/6010	5.0	340

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
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5120998.CAR <10>



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Client Project ID: #9236A, Robertsson-Ceco  
Sample Descript: Soil: SB-03C  
Lab Number: 512-1009

Sampled: Dec 11, 1995  
Received: Dec 11, 1995  
Analyzed: Dec 14-15, 1995  
Reported: Dec 18, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	3.6
Barium.....	3050/6010	25	690
Beryllium.....	3050/6010	0.50	1.0
Cadmium.....	3050/6010	0.50	7.2
Chromium.....	3050/6010	0.50	1,300
Lead.....	3050/7421	5.0	200
Mercury.....	7471	0.040	N.D.
Nickel.....	3050/6010	2.5	34
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	0.50	190
Zinc.....	3050/6010	25	1,400

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

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son Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
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Client Project ID: #9236A, Robertsson-Ceco  
Sample Descript: Soil: SB-04B  
Lab Number: 512-1016

Sampled: Dec 11, 1995  
Received: Dec 11, 1995  
Analyzed: Dec 12-15, 1995  
Reported: Dec 18, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.20	7.9
Hexavalent Chromium.....	7196	2.0	N.D.
Lead.....	3050/6010	5.0	170

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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5120998.CAR <11>





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Robertson Environmental, Inc.  
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Attention: Ed Garske

Client Project ID: #9236A, Robertsson-Ceco  
Sample Descript: Soil: SB-04C  
Lab Number: 512-1017

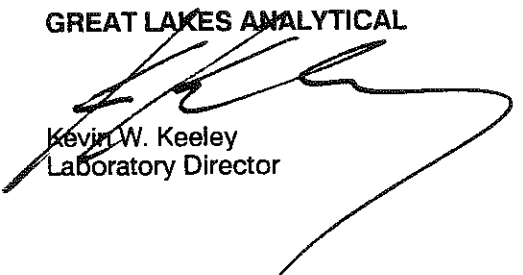
Sampled: Dec 11, 1995  
Received: Dec 11, 1995  
Analyzed: Dec 14-15, 1995  
Reported: Dec 18, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	4.4
Barium.....	3050/6010	25	300
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	1.7
Chromium.....	3050/6010	0.50	2,200
Lead.....	3050/7421	5.0	84
Mercury.....	7471	0.040	N.D.
Nickel.....	3050/6010	2.5	18
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	0.50	94
Zinc.....	3050/6010	25	590

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

5120998.CAR &lt;4&gt;



**GREAT  
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Chicago, IL 60606  
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Client Project ID: #9236A, Robertsson-Ceco  
Sample Descript: Soil: SB-04F  
Lab Number: 512-1019

Sampled: Dec 11, 1995  
Received: Dec 11, 1995  
Analyzed: Dec 12-15, 1995  
Reported: Dec 18, 1995


### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
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Cadmium.....	3050/6010	0.20	1.8
Hexavalent Chromium.....	7196	2.0	3.8
Lead.....	3050/6010	5.0	61

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
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Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-05D  
Lab Number: 512-1120

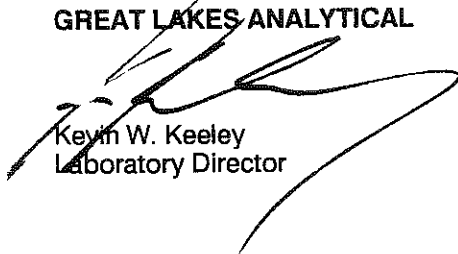
Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	53
Hexavalent Chromium.....	7197	2.0	N.D.
Lead.....	3050/6010	5.0	2,800

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

5121120.CAR &lt;1&gt;



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Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-05F  
Lab Number: 512-1122

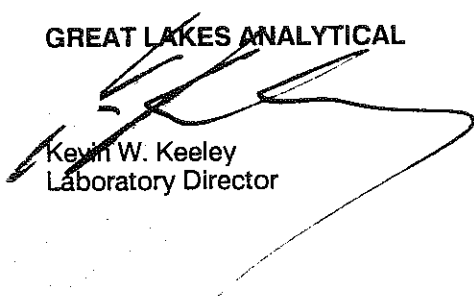
Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	17
Hexavalent Chromium.....	7197	2.0	N.D.
Lead.....	3050/6010	5.0	990

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
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5121120.CAR &lt;2&gt;



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Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceko - Lemont, IL  
Sample Descript: Soil: SB-05G  
Lab Number: 512-1123

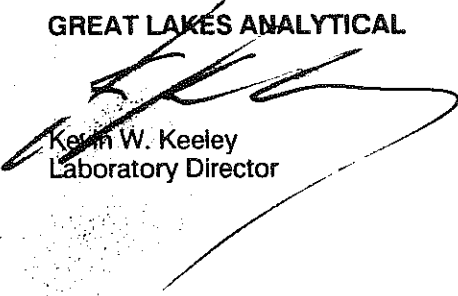
Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	5.9
Barium.....	3050/6010	25	170
Beryllium.....	3050/6010	0.50	0.63
Cadmium.....	3050/6010	0.50	10
Chromium.....	3050/6010	0.50	51
Lead.....	3050/6010	5.0	430
Mercury.....	7471	0.040	0.19
Nickel.....	3050/6010	2.5	27
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	25
Zinc.....	3050/6010	25	1,600

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
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son Environmental, Inc.  
W. Randolph Street  
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Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-06A  
Lab Number: 512-1124

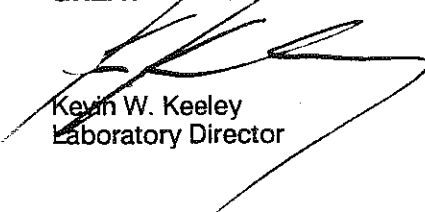
Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
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Cadmium.....	3050/6010	0.50	4.5
Hexavalent Chromium.....	7197	2.0	2.2
Lead.....	3050/6010	5.0	1,200

GREAT LAKES ANALYTICAL

  
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Laboratory Director

5121120.CAR <4>



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Robertson Environmental, Inc.  
12 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceko - Lemont, IL  
Sample Descript: Soil: SB-06B  
Lab Number: 512-1125

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	5.7
Barium.....	3050/6010	25	460
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	6.7
Chromium.....	3050/6010	0.50	680
Lead.....	3050/6010	5.0	950
Mercury.....	7471	0.040	0.29
Nickel.....	3050/6010	2.5	44
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	330
Zinc.....	3050/6010	25	1,200

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

5121120.CAR &lt;5&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

son Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-7A  
Lab Number: 512-1130

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	19
Hexavalent Chromium.....	7197	2.0	N.D.
Lead.....	3050/6010	5.0	1,100

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
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5121120.CAR <10>





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Trison Environmental, Inc.  
12 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-7B  
Lab Number: 512-1131

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	19
Barium.....	3050/6010	25	310
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	9.5
Chromium.....	3050/6010	0.50	110
Lead.....	3050/6010	5.0	1,100
Mercury.....	7471	0.040	0.73
Nickel.....	3050/6010	2.5	130
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	26
Zinc.....	3050/6010	25	1,700

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
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5121120.CAR &lt;11&gt;



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Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-7C  
Lab Number: 512-1132

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	9.0
Hexavalent Chromium.....	7197	2.0	N.D.
Lead.....	3050/6010	5.0	850

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
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Hilson Environmental, Inc.  
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Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-08C  
Lab Number: 512-1149

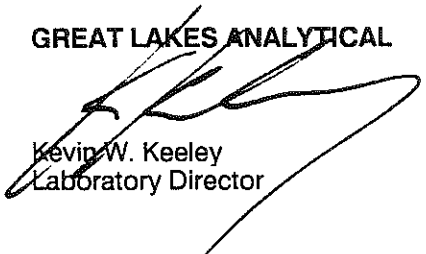
Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	2.1
Hexavalent Chromium.....	7197	2.0	N.D.
Lead.....	3050/6010	5.0	110

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
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5121120.CAR <24>



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Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-08D  
Lab Number: 512-1150

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	5.0
Hexavalent Chromium.....	7197	2.0	N.D.
Lead.....	3050/6010	5.0	340

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

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2 W. Randolph Street  
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Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-08F  
Lab Number: 512-1151

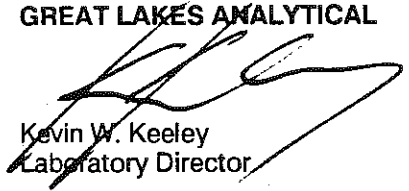
Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	17
Barium.....	3050/6010	25	280
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	10
Chromium.....	3050/6010	0.50	72
Lead.....	3050/6010	5.0	1,200
Mercury.....	7471	0.040	0.75
Nickel.....	3050/6010	2.5	81
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	18
Zinc.....	3050/6010	25	1,900

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
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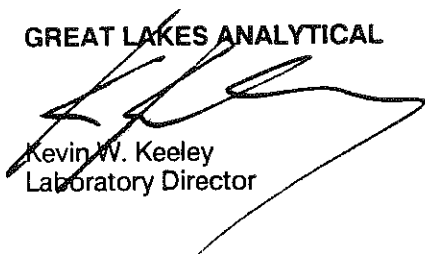
Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-09C  
Lab Number: 512-1139

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	0.89
Hexavalent Chromium.....	7197	2.0	3.7
Lead.....	3050/6010	5.0	89

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Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-09D  
Lab Number: 512-1140

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	4.3
Hexavalent Chromium.....	7197	2.0	N.D.
Lead.....	3050/6010	5.0	380

Analytes reported as N.D. were not present above the stated limit of detection.

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Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-09E  
Lab Number: 512-1141

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	9.3
Barium.....	3050/6010	25	600
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	11
Chromium.....	3050/6010	0.50	450
Lead.....	3050/6010	5.0	2,200
Mercury.....	7471	0.040	1.9
Nickel.....	3050/6010	2.5	81
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	180
Zinc.....	3050/6010	25	4,400

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

5121120.CAR &lt;17&gt;



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Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-10B  
Lab Number: 512-1222

Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	9.3
Barium.....	3050/6010	25	280
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	80
Chromium.....	3050/6010	0.50	1,100
Lead.....	3050/6010	5.0	1,900
Mercury.....	7471	0.40	N.D.
Nickel.....	3050/6010	5.0	43
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	2.6
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	180
Zinc.....	3050/6010	25	9,200

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL



Kevin W. Keeley  
Laboratory Director



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Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB-10C  
Lab Number: 512-1223

Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
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Cadmium.....	3050/6010	0.50	60
Hexavalent Chromium.....	7197	4.0	8.1
Lead.....	3050/6010	5.0	1,900

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Client Project ID: 9236A, Robertson Ceko - Lemont, IL  
Sample Descript: Soil: SB-10E  
Lab Number: 512-1224

Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	13
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	320

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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Laboratory Director



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Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB - 11A  
Lab Number: 512-1230

Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	3.3
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	130

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

ison Environmental, Inc.  
 12 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
 Sample Descript: Soil: SB - 11C  
 Lab Number: 512-1232

Sampled: Dec 13, 1995  
 Received: Dec 13, 1995  
 Digested: Dec 14, 1995  
 Analyzed: Dec 15-20, 1995  
 Reported: Dec 20, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	19
Barium.....	3050/6010	25	120
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	2.3
Chromium.....	3050/6010	0.50	1,400
Lead.....	3050/6010	5.0	73
Mercury.....	7471	0.40	N.D.
Nickel.....	3050/6010	5.0	110
Selenium.....	3050/7740	0.50	1.0
Silver.....	3050/6010	2.5	3.4
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/8010	5.0	450
Zinc.....	3050/6010	25	260

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL



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Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB - 11D  
Lab Number: 512-1233

Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 14, 1995  
Reported: Dec 20, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	0.66
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	26

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
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Ison Environmental, Inc.  
312 W. Randolph Street  
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Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB - 12A  
Lab Number: 512-1236


Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	3.3
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	320

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

5121222.CAR &lt;10&gt;

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312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB - 12B  
Lab Number: 512-1237

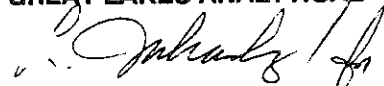
Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	7.9
Barium.....	3050/6010	25	140
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	19
Chromium.....	3050/6010	0.50	770
Lead.....	3050/6010	5.0	730
Mercury.....	7471	0.40	N.D.
Nickel.....	3050/6010	5.0	28
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	170
Zinc.....	3050/6010	25	2,500

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL



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Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB - 12C  
Lab Number: 512-1238

Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	4.8
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	180

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

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312 W. Randolph Street  
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Client Project ID: 9236A, Robertson Ceko - Lemont, IL  
Sample Descript: Soil: SB - 13B  
Lab Number: 512-1246

Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
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Cadmium	3050/6010	0.50	0.66
Hexavalent Chromium	7197	4.0	8.3
Lead	3050/6010	5.0	13

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Kevin W. Keeley  
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312 W. Randolph Street  
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Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB - 13C  
Lab Number: 512-1247

Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	6.8
Barium.....	3050/6010	25	270
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	2.1
Chromium.....	3050/6010	0.50	1,400
Lead.....	3050/6010	5.0	27
Mercury.....	7471	0.40	N.D.
Nickel.....	3050/6010	5.0	28
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	2.6
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	210
Zinc.....	3050/6010	25	200

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL



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Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB - 13D  
Lab Number: 512-1248

Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
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Cadmium	3050/6010	0.50	2.4
Hexavalent Chromium	7197	4.0	4.4
Lead	3050/6010	5.0	81

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Ison Environmental, Inc.  
512 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB - 14B  
Lab Number: 512-1252

Sampled: Dec 12, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	64
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/7421	5.0	3,600

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director



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(708) 808-7766 FAX (708) 808-7772

Ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB - 14C  
Lab Number: 512-1253

Sampled: Dec 12, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	2.4
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	140

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director

Ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SB - 14D  
Lab Number: 512-1254

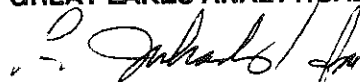
Sampled: Dec 12, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	7.0
Barium.....	3050/6010	25	270
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	47
Chromium.....	3050/6010	0.50	880
Lead.....	3050/6010	5.0	2,400
Mercury.....	7471	0.40	0.61
Nickel.....	3050/6010	5.0	48
Selenium.....	3050/7740	0.50	3.6
Silver.....	3050/6010	2.5	5.3
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	150
Zinc.....	3050/6010	25	8,700

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL



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Robbison Environmental, Inc.  
22 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-15A  
Lab Number: 512-1283

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
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Cadmium	3050/6010	0.050	6.4
Hexavalent Chromium	7197	4.0	4.5
Lead	3050/6010	5.0	230

GREAT LAKES ANALYTICAL

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Robtson Environmental, Inc.  
12 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-15D  
Lab Number: 512-1286

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.050	0.97
Hexavalent Chromium .....	7197	4.0	N.D.
Lead .....	3050/6010	5.0	45

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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Robbison Environmental, Inc.  
12 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: Dup-2A  
Lab Number: 512-1290

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.050	4.8
Hexavalent Chromium .....	7197	4.0	N.D.
Lead .....	3050/6010	5.0	180

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

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erson Environmental, Inc.  
512 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: Dup-2D  
Lab Number: 512-1291

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.050	N.D.
Hexavalent Chromium .....	7197	4.0	N.D.
Lead .....	3050/6010	5.0	28

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

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ison Environmental, Inc.  
2 W. Randolph Street  
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Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-16A  
Lab Number: 512-1292

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.050	1.8
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	97

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

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12 W. Randolph Street  
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Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-16C  
Lab Number: 512-1294

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium .....	3050/6010	0.050	0.94
Hexavalent Chromium .....	7197	4.0	N.D.
Lead .....	3050/6010	5.0	140

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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Robtson Environmental, Inc.  
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Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-17A  
Lab Number: 512-1297

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium .....	3050/6010	0.050	6.8
Hexavalent Chromium .....	7197	4.0	N.D.
Lead .....	3050/6010	5.0	780

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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Ison Environmental, Inc.  
512 W. Randolph Street  
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Attention: Ed Garske

Client Project ID: #9236A, Robertson-Ceco  
Sample Descript: Soil: SB-18B  
Lab Number: 512-1300

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium .....	3050/6010	0.050	4.0
Hexavalent Chromium .....	7197	4.0	N.D.
Lead .....	3050/6010	5.0	480

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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Robbison Environmental, Inc.  
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Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-19B  
Lab Number: 512-1302

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium .....	3050/6010	0.050	4.4
Hexavalent Chromium .....	7197	4.0	N.D.
Lead .....	3050/6010	5.0	390

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



rison Environmental, Inc.  
 12 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
 Sample Descript: Soil: SB-19C  
 Lab Number: 512-1303

Sampled: Dec 14, 1995  
 Received: Dec 14, 1995  
 Extracted: Dec 15, 1995  
 Analyzed: Dec 15-21, 1995  
 Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.050	1.4
Hexavalent Chromium .....	7197	4.0	N.D.
Lead .....	3050/6010	5.0	110

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**



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Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-20B  
Lab Number: 512-1306

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium .....	3050/6010	0.050	13
Hexavalent Chromium .....	7197	4.0	N.D.
Lead .....	3050/6010	5.0	390

Analytes reported as N.D. were not present above the stated limit of detection.

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Johnson Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-20D  
Lab Number: 512-1307

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.050	2.7
Hexavalent Chromium	7197	4.0	N.D.
Lead	3050/6010	5.0	200

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

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Ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-21A  
Lab Number: 512-1308

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.050	12
Hexavalent Chromium .....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	380

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director



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ANALYTICAL**

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312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-21C  
Lab Number: 512-1310

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.050	3.1
Hexavalent Chromium .....	7197	4.0	N.D.
Lead .....	3050/6010	5.0	130

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



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Trison Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-15C  
Lab Number: 512-1285

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic .....	3050/7060	0.50	N.D.
Barium .....	3050/6010	25	400
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	0.65
Chromium.....	3050/6010	0.50	1.900
Lead .....	3050/6010	5.0	34
Mercury .....	7471	0.40	N.D.
Nickel .....	3050/6010	2.5	37
Selenium.....	3050/7741	0.50	8.5
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	230
Zinc.....	3050/6010	25	210

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

Ison Environmental, Inc.  
512 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: Dup-2C  
Lab Number: 512-1289

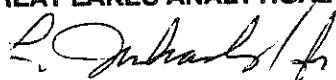
Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	0.50	3.4
Barium.....	3050/6010	25	470
Beryllium.....	3050/6010	0.50	0.63
Cadmium.....	3050/6010	0.50	0.90
Chromium.....	3050/6010	0.50	1,900
Lead.....	3050/6010	5.0	38
Mercury.....	7471	0.40	N.D.
Nickel.....	3050/6010	2.5	52
Selenium.....	3050/7741	0.50	3.6
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	270
Zinc.....	3050/6010	25	260

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL



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Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-16B  
Lab Number: 512-1293

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	0.50	N.D.
Barium.....	3050/6010	25	330
Beryllium.....	3050/6010	0.50	3.4
Cadmium.....	3050/6010	0.50	2.7
Chromium.....	3050/6010	0.50	1,000
Lead.....	3050/6010	5.0	89
Mercury.....	7471	0.40	N.D.
Nickel.....	3050/6010	2.5	33
Selenium.....	3050/7741	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	170
Zinc.....	3050/6010	25	790

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
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rison Environmental, Inc.  
 12 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
 Sample Descript: Soil: SB-17B  
 Lab Number: 512-1298

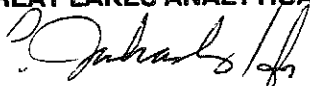
Sampled: Dec 14, 1995  
 Received: Dec 14, 1995  
 Extracted: Dec 15, 1995  
 Analyzed: Dec 15-21, 1995  
 Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
<b>Arsenic.....</b>	<b>3050/7060</b>	<b>0.50</b>	<b>5.6</b>
<b>Barium.....</b>	<b>3050/6010</b>	<b>25</b>	<b>25</b>
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	N.D.
<b>Chromium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>12</b>
<b>Lead.....</b>	<b>3050/6010</b>	<b>5.0</b>	<b>30</b>
Mercury.....	7471	0.40	N.D.
<b>Nickel.....</b>	<b>3050/6010</b>	<b>2.5</b>	<b>9.8</b>
Selenium.....	3050/7741	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
<b>Vanadium.....</b>	<b>3050/6010</b>	<b>5.0</b>	<b>11</b>
<b>Zinc.....</b>	<b>3050/6010</b>	<b>25</b>	<b>57</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**



Kevin W. Keeley  
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Ison Environmental, Inc.  
312 W. Randolph Street  
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Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-18A  
Lab Number: 512-1299

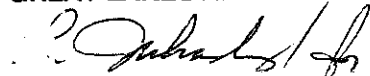
Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic .....	3050/7060	0.50	N.D.
Barium.....	3050/6010	25	530
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	3.8
Chromium.....	3050/6010	0.50	230
Lead.....	3050/6010	5.0	570
Mercury.....	7471	0.40	0.55
Nickel.....	3050/6010	2.5	24
Selenium.....	3050/7741	0.50	1.3
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	180
Zinc.....	3050/6010	25	690

Analytes reported as N.D. were not present above the stated limit of detection.

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512 W. Randolph Street  
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Attention: Ed Garske

Client Project ID: #9236A, Robertson-Ceco  
Sample Descript: Soil: SB-19A  
Lab Number: 512-1301

Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	0.50	N.D.
Barium.....	3050/6010	25	260
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	4.6
Chromium.....	3050/6010	0.50	1,500
Lead.....	3050/6010	5.0	380
Mercury.....	7471	0.40	N.D.
Nickel.....	3050/6010	2.5	62
Selenium.....	3050/7741	0.50	0.78
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	180
Zinc.....	3050/6010	25	900

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

Ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Sample Descript: Soil: SB-20A  
Lab Number: 512-1305

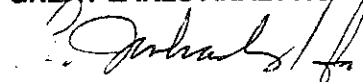
Sampled: Dec 14, 1995  
Received: Dec 14, 1995  
Extracted: Dec 15, 1995  
Analyzed: Dec 15-21, 1995  
Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	0.50	6.7
Barium.....	3050/6010	25	210
Beryllium.....	3050/6010	0.50	0.63
Cadmium.....	3050/6010	0.50	110
Chromium.....	3050/6010	0.50	880
Lead.....	3050/6010	5.0	3,000
Mercury.....	7471	0.40	0.56
Nickel.....	3050/6010	2.5	45
Selenium.....	3050/7741	0.50	2.3
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	200
Zinc.....	3050/6010	25	13,000

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL



Kevin W. Keeley  
Laboratory Director

Larson Environmental, Inc.  
 312 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
 Sample Descript: Soil: SB-21B  
 Lab Number: 512-1309

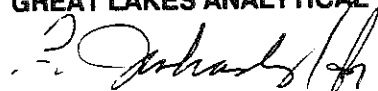
Sampled: Dec 14, 1995  
 Received: Dec 14, 1995  
 Extracted: Dec 15, 1995  
 Analyzed: Dec 15-21, 1995  
 Reported: Dec 21, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	0.50	4.4
Barium.....	3050/6010	25	70
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	3.7
Chromium.....	3050/6010	0.50	94
Lead.....	3050/6010	5.0	160
Mercury.....	7471	0.40	N.D.
Nickel.....	3050/6010	2.5	27
Selenium.....	3050/7741	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	35
Zinc.....	3050/6010	25	720

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL



Kevin W. Keeley  
 Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Ison Environmental, Inc.  
112 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-22A  
Lab Number: 512-1317

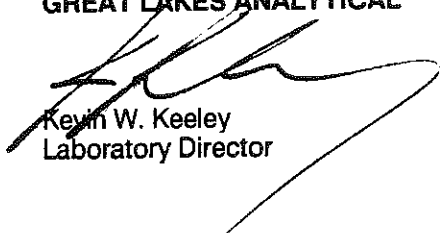
Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	12
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	1,500

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

5121317.CAR <1>

Ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-22B  
Lab Number: 512-1318

Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	3.3
Barium.....	3050/6010	25	110
Beryllium.....	3050/6010	0.50	0.71
Cadmium.....	3050/6010	0.50	1.6
Chromium.....	3050/6010	0.50	61
Lead.....	3050/6010	5.0	67
Mercury.....	7471	0.040	N.D.
Nickel.....	3050/6010	2.5	22
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	41
Zinc.....	3050/6010	25	190

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director



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312 W. Randolph Street  
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Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-22D  
Lab Number: 512-1319

Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	3.3
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	210

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

5121317.CAR <3>



Ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-23A  
Lab Number: 512-1321

Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	5.5
Barium.....	3050/6010	25	320
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	7.9
Chromium.....	3050/6010	0.50	440
Lead.....	3050/6010	5.0	530
Mercury.....	7471	0.040	1.1
Nickel.....	3050/6010	2.5	33
Selenium.....	3050/7740	0.50	0.64
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	250
Zinc.....	3050/6010	25	1,500

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director



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Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-23B  
Lab Number: 512-1322

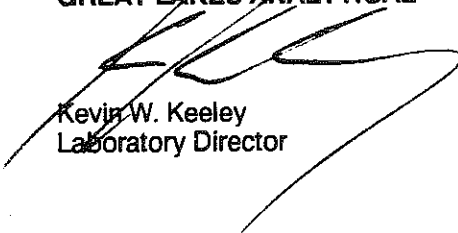
Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	39
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	1,300

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

5121317.CAR <5>



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Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-23C  
Lab Number: 512-1323

Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	37
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	1,300

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.



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Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-24A  
Lab Number: 512-1324

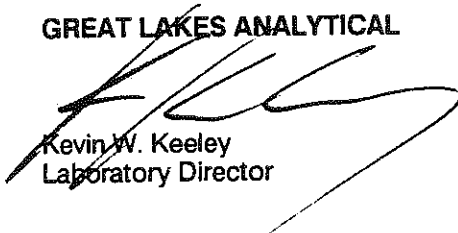
Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	3.7
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	220

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

5121317.CAR <7>



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Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-24B  
Lab Number: 512-1325

Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	1.4
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	66

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-24C  
Lab Number: 512-1326

Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	N.D.
Barium.....	3050/6010	25	290
Beryllium.....	3050/6010	0.50	0.94
Cadmium.....	3050/6010	0.50	1.2
Chromium.....	3050/6010	0.50	860
Lead.....	3050/6010	5.0	53
Mercury.....	7471	0.040	N.D.
Nickel.....	3050/6010	2.5	22
Selenium.....	3050/7740	0.50	0.68
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	300
Zinc.....	3050/6010	25	220

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director

Ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-25A  
Lab Number: 512-1327

Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	40
Barium.....	3050/6010	25	49
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	N.D.
Chromium.....	3050/6010	0.50	9.3
Lead.....	3050/6010	5.0	19
Mercury.....	7471	0.040	0.048
Nickel.....	3050/6010	2.5	9.1
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	11
Zinc.....	3050/6010	25	78

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director



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Robertson Environmental, Inc.  
512 W. Randolph Street  
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Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-25B  
Lab Number: 512-1328

Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	N.D.
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	11

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.





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Ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-25C  
Lab Number: 512-1329

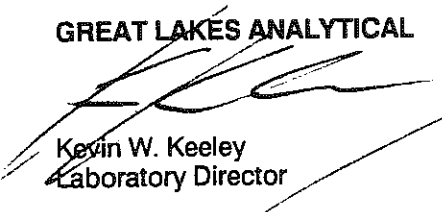
Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	0.63
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	12

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

Ison Environmental, Inc.  
512 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-26A  
Lab Number: 512-1330

Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	38
Barium.....	3050/6010	25	80
Beryllium.....	3050/6010	0.50	1.0
Cadmium.....	3050/6010	0.50	1.3
Chromium.....	3050/6010	0.50	7.2
Lead.....	3050/6010	5.0	71
Mercury.....	7471	0.040	0.31
Nickel.....	3050/6010	2.5	9.9
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	9.3
Zinc.....	3050/6010	25	270

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director



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Ison Environmental, Inc.  
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Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-26B  
Lab Number: 512-1331

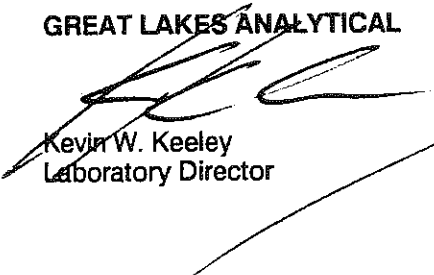
Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	0.67
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	40

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.



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Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: SB-26C  
Lab Number: 512-1332

Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	0.80
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	44

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.



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Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: Dup - 1B  
Lab Number: 512-1227

Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	8.1
Barium.....	3050/6010	25	180
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	58
Chromium.....	3050/6010	0.50	1,000
Lead.....	3050/6010	5.0	1,200
Mercury.....	7471	0.40	N.D.
Nickel.....	3050/6010	5.0	55
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	4.0
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	250
Zinc.....	3050/6010	25	8,600

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



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ison Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: Dup - 1C  
Lab Number: 512-1228

Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	3050/6010	0.50	40
Hexavalent Chromium	7197	4.0	5.8
Lead	3050/6010	5.0	1,200

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Ison Environmental, Inc.  
512 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: Dup - 1E  
Lab Number: 512-1229

Sampled: Dec 13, 1995  
Received: Dec 13, 1995  
Digested: Dec 14, 1995  
Analyzed: Dec 15-20, 1995  
Reported: Dec 20, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	30
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	450

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



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Ison Environmental, Inc.  
512 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: Dup 3A  
Lab Number: 512-1333

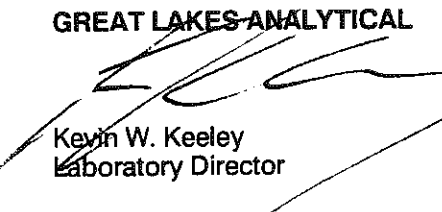
Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	13
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	1,700

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.



son Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: Dup 3B  
Lab Number: 512-1334

Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	17
Barium.....	3050/6010	25	340
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	5.4
Chromium.....	3050/6010	0.50	740
Lead.....	3050/6010	5.0	440
Mercury.....	7471	0.040	0.16
Nickel.....	3050/6010	2.5	100
Selenium.....	3050/7740	0.50	0.68
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	250
Zinc.....	3050/6010	25	1,100

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director



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312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: Dup 3D  
Lab Number: 512-1335

Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/8010	0.50	0.99
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	57

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.



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Ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: Dup 4A  
Lab Number: 512-1336


Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	0.74
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	17

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.



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Robertson Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: Dup 4B  
Lab Number: 512-1337

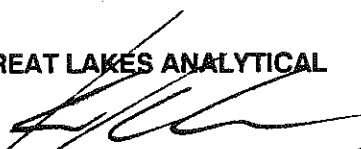
Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	1.5
Hexavalent Chromium.....	7197	4.0	N.D.
Lead.....	3050/6010	5.0	84

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

Please Note:

One Hexavalent Chromium Matrix Spike Recovery is outside of established control limits.

Ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson-CECO-Lemont, IL  
Sample Descript: Soil: Dup 4C  
Lab Number: 512-1338

Sampled: Dec 15, 1995  
Received: Dec 15, 1995  
Digested: Dec 16-19, 1995  
Analyzed: Dec 16-22, 1995  
Reported: Dec 22, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	N.D.
Barium.....	3050/6010	25	320
Beryllium.....	3050/6010	0.50	0.64
Cadmium.....	3050/6010	0.50	0.52
Chromium.....	3050/6010	0.50	440
Lead.....	3050/6010	5.0	19
Mercury.....	7471	0.040	N.D.
Nickel.....	3050/6010	2.5	16
Selenium.....	3050/7740	0.50	0.70
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	200
Zinc.....	3050/6010	25	94

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director



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ison Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson - Ceco  
Sample Descript: Soil: SB-27A  
Lab Number: 512-1693

Sampled: Dec 20, 1995  
Received: Dec 20, 1995  
Digested: Dec 21, 1995  
Analyzed: Dec 21-22, 1995  
Reported: Dec 27, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	8.2
Hexavalent Chromium.....	7197	2.0	N.D.
Lead.....	3050/6010	5.0	760

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

5121693.CAR &lt;1&gt;



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Ison Environmental, Inc.  
322 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson - Ceco  
Sample Descript: Soil: SB-27B  
Lab Number: 512-1694

Sampled: Dec 20, 1995  
Received: Dec 20, 1995  
Digested: Dec 21, 1995  
Analyzed: Dec 21-27, 1995  
Reported: Dec 27, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	4.2
Barium.....	3050/6010	25	200
Beryllium.....	3050/6010	0.50	0.68
Cadmium.....	3050/6010	0.50	2.9
Chromium.....	3050/6010	0.50	450
Lead.....	3050/6010	5.0	210
Mercury.....	7471	0.040	N.D.
Nickel.....	3050/6010	2.5	68
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	79
Zinc.....	3050/6010	25	480

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

5121693.CAR &lt;2&gt;



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ison Environmental, Inc.  
512 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson - Ceco  
Sample Descript: Soil: SB-27C  
Lab Number: 512-1695

Sampled: Dec 20, 1995  
Received: Dec 20, 1995  
Digested: Dec 21, 1995  
Analyzed: Dec 21-22, 1995  
Reported: Dec 27, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	2.9
Hexavalent Chromium.....	7197	2.0	N.D.
Lead.....	3050/6010	5.0	190

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley  
Laboratory Director

5121693.CAR <3>





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2 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson - Ceco  
Sample Descript: Soil: SB-28A  
Lab Number: 512-1701

Sampled: Dec 20, 1995  
Received: Dec 20, 1995  
Digested: Dec 21, 1995  
Analyzed: Dec 21-27, 1995  
Reported: Dec 27, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	4.2
Barium.....	3050/6010	25	280
Beryllium.....	3050/6010	0.50	0.57
Cadmium.....	3050/6010	0.50	3.7
Chromium.....	3050/6010	0.50	410
Lead.....	3050/6010	5.0	150
Mercury.....	7471	0.040	N.D.
Nickel.....	3050/6010	2.5	24
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	89
Zinc.....	3050/6010	25	820

Analytes reported as N.D. were not present above the stated limit of detection.

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Kevin W. Keeley  
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2 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson - Ceco  
Sample Descript: Soil: SB-28B  
Lab Number: 512-1702

Sampled: Dec 20, 1995  
Received: Dec 20, 1995  
Digested: Dec 21, 1995  
Analyzed: Dec 21-27, 1995  
Reported: Dec 27, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	0.57
Hexavalent Chromium.....	7197	2.0	N.D.
Lead.....	3050/6010	5.0	21

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

5121693.CAR <5>



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2 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson - Ceco  
Sample Descript: Soil: SB-28D  
Lab Number: 512-1704

Sampled: Dec 20, 1995  
Received: Dec 20, 1995  
Digested: Dec 21, 1995  
Analyzed: Dec 21-27, 1995  
Reported: Dec 27, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Cadmium.....	3050/6010	0.50	0.70
Hexavalent Chromium.....	7197	2.0	N.D.
Lead.....	3050/6010	5.0	35

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

rison Environmental, Inc.  
 2 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
 Sample Descript: Soil: SS-01  
 Lab Number: 512-1142

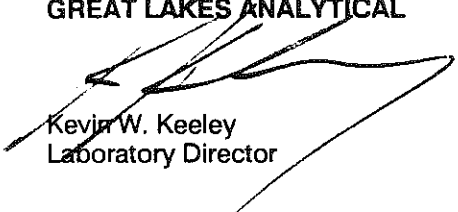
Sampled: Dec 12, 1995  
 Received: Dec 12, 1995  
 Analyzed: Dec 13, 1995  
 Reported: Dec 19, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	5.8
Barium.....	3050/6010	25	47
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	1.5
Chromium.....	3050/6010	0.50	19
Lead.....	3050/6010	5.0	64
Mercury.....	7471	0.040	0.070
Nickel.....	3050/6010	2.5	8.8
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	13
Zinc.....	3050/6010	25	260

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
 Kevin W. Keeley  
 Laboratory Director



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Ison Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SS-02  
Lab Number: 512-1143

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	N.D.
Barium.....	3050/6010	25	N.D.
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	0.97
Chromium.....	3050/6010	0.50	13
Lead.....	3050/6010	5.0	160
Mercury.....	7471	0.040	N.D.
Nickel.....	3050/6010	2.5	3.3
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	6.2
Zinc.....	3050/6010	25	140

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

5121120.CAR &lt;19&gt;



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ison Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceko - Lemont, IL  
Sample Descript: Soil: SS-03  
Lab Number: 512-1144

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	5.3
Barium.....	3050/6010	25	40
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	2.5
Chromium.....	3050/6010	0.50	23
Lead.....	3050/6010	5.0	150
Mercury.....	7471	0.040	0.17
Nickel.....	3050/6010	2.5	9.7
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	15
Zinc.....	3050/6010	25	370

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

ison Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: SS-04  
Lab Number: 512-1145

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	14
Barium.....	3050/6010	25	72
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	3.0
Chromium.....	3050/6010	0.50	22
Lead.....	3050/6010	5.0	260
Mercury.....	7471	0.040	4.5
Nickel.....	3050/6010	2.5	13
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	18
Zinc.....	3050/6010	25	1,500

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director



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Ison Environmental, Inc.  
112 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceko - Lemont, IL  
Sample Descript: Soil: SS-05  
Lab Number: 512-1146

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	9.1
Barium.....	3050/6010	25	35
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	N.D.
Chromium.....	3050/6010	0.50	12
Lead.....	3050/6010	5.0	22
Mercury.....	7471	0.040	0.048
Nickel.....	3050/6010	2.5	14
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	20
Zinc.....	3050/6010	25	110

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director





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Trison Environmental, Inc.  
512 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceko - Lemont, IL  
Sample Descript: Soil: SS-06  
Lab Number: 512-1147

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	34
Barium.....	3050/6010	25	82
Beryllium.....	3050/6010	0.50	0.57
Cadmium.....	3050/6010	0.50	1.8
Chromium.....	3050/6010	0.50	58
Lead.....	3050/6010	5.0	88
Mercury.....	7471	0.040	N.D.
Nickel.....	3050/6010	2.5	20
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	34
Zinc.....	3050/6010	25	440

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director



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Robertson Environmental, Inc.  
100 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.  
Sample Descript: Soil: SS-7  
Lab Number: 603-1599

Sampled: Mar 25, 1996  
Received: Mar 25, 1996  
Analyzed: Mar 27-29, 1996  
Reported: Apr 1, 1996

**METALS**

Analyte	EPA Method	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	3.6
Barium.....	3050/6010	25	83
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	0.53
Chromium.....	3050/6010	0.50	17
Lead.....	3050/6010	5.0	26
Mercury.....	7471	0.040	N.D.
Nickel.....	3050/6010	2.5	12
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	22
Zinc.....	3050/6010	25	140

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Johnson Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.  
Sample Descript: Soil: SS-8  
Lab Number: 603-1601

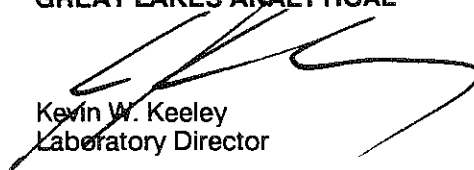
Sampled: Mar 25, 1996  
Received: Mar 25, 1996  
Analyzed: Mar 27-29, 1996  
Reported: Apr 1, 1996

**METALS**

Analyte	EPA Method	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Antimony.....	3050/6010	5.0	N.D.
<b>Arsenic.....</b>	<b>3050/7060</b>	<b>2.5</b>	<b>3.4</b>
Barium.....	3050/6010	25	N.D.
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	N.D.
<b>Chromium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>11</b>
<b>Lead.....</b>	<b>3050/6010</b>	<b>5.0</b>	<b>13</b>
Mercury.....	7471	0.040	N.D.
<b>Nickel.....</b>	<b>3050/6010</b>	<b>2.5</b>	<b>8.8</b>
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
<b>Vanadium.....</b>	<b>3050/6010</b>	<b>5.0</b>	<b>14</b>
<b>Zinc.....</b>	<b>3050/6010</b>	<b>25</b>	<b>66</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

6031599.CAR &lt;2&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Johnson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.  
Sample Descript: Soil: SS-9  
Lab Number: 603-1602

Sampled: Mar 25, 1996  
Received: Mar 25, 1996  
Analyzed: Mar 27-29, 1996  
Reported: Apr 1, 1996

**METALS**

Analyte	EPA Method	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	2.8
Barium.....	3050/6010	25	130
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	4.6
Chromium.....	3050/6010	0.50	170
Lead.....	3050/6010	5.0	170
Mercury.....	7471	0.040	0.30
Nickel.....	3050/6010	2.5	18
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	47
Zinc.....	3050/6010	25	1,000

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Ison Environmental, Inc.  
322 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.  
Sample Descript: Soil: SS-10  
Lab Number: 603-1606

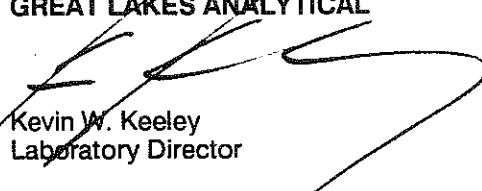
Sampled: Mar 25, 1996  
Received: Mar 25, 1996  
Analyzed: Mar 27-29, 1996  
Reported: Apr 1, 1996

**METALS**

Analyte	EPA Method	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Antimony.....	3050/6010	5.0	N.D.
<b>Arsenic.....</b>	<b>3050/7060</b>	<b>2.5</b>	<b>2.7</b>
Barium.....	3050/6010	25	N.D.
Beryllium.....	3050/6010	0.50	N.D.
<b>Cadmium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>0.86</b>
<b>Chromium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>7.4</b>
<b>Lead.....</b>	<b>3050/6010</b>	<b>5.0</b>	<b>57</b>
<b>Mercury.....</b>	<b>7471</b>	<b>0.040</b>	<b>0.14</b>
<b>Nickel.....</b>	<b>3050/6010</b>	<b>2.5</b>	<b>6.8</b>
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
<b>Vanadium.....</b>	<b>3050/6010</b>	<b>5.0</b>	<b>5.4</b>
<b>Zinc.....</b>	<b>3050/6010</b>	<b>25</b>	<b>95</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

6031599.CAR &lt;4&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

ison Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Soil: PS-01  
Lab Number: 512-1126

Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	4.5
Barium.....	3050/6010	25	200
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	5.3
Chromium.....	3050/6010	0.50	790
Lead.....	3050/6010	5.0	510
Mercury.....	7471	0.040	0.18
Nickel.....	3050/6010	2.5	27
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	140
Zinc.....	3050/6010	25	930

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

5121120.CAR &lt;6&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Trison Environmental, Inc.  
12 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceko - Lemont, IL  
Sample Descript: Soil: PS-02  
Lab Number: 512-1127

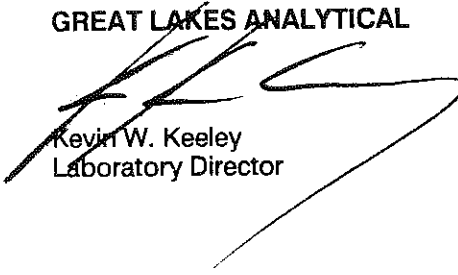
Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	25
Barium.....	3050/6010	25	37
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	2.0
Chromium.....	3050/6010	0.50	150
Lead.....	3050/6010	5.0	160
Mercury.....	7471	0.040	N.D.
Nickel.....	3050/6010	2.5	190
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	35
Zinc.....	3050/6010	25	410

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

5121120.CAR &lt;7&gt;

rison Environmental, Inc.  
 2 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
 Sample Descript: Soil: PS-03  
 Lab Number: 512-1128

Sampled: Dec 12, 1995  
 Received: Dec 12, 1995  
 Analyzed: Dec 13, 1995  
 Reported: Dec 19, 1995

### LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	4.6
Barium.....	3050/6010	25	160
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	3.4
Chromium.....	3050/6010	0.50	160
Lead.....	3050/6010	5.0	100
Mercury.....	7471	0.040	0.33
Nickel.....	3050/6010	2.5	24
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	57
Zinc.....	3050/6010	25	670

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
 Kevin W. Keeley  
 Laboratory Director





1380 Busch Parkway • Buffalo Grove, Illinois 60089

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Johnson Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceko - Lemont, IL  
Sample Descript: Soil: PS-04  
Lab Number: 512-1129

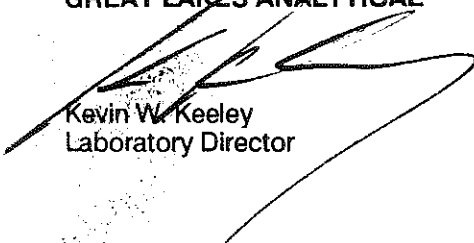
Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 13, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Antimony.....	3050/6010	5.0	N.D.
Arsenic.....	3050/7060	2.5	N.D.
Barium.....	3050/6010	25	60
Beryllium.....	3050/6010	0.50	N.D.
Cadmium.....	3050/6010	0.50	1.6
Chromium.....	3050/6010	0.50	56
Lead.....	3050/6010	5.0	50
Mercury.....	7471	0.040	N.D.
Nickel.....	3050/6010	2.5	9.8
Selenium.....	3050/7740	0.50	N.D.
Silver.....	3050/6010	2.5	N.D.
Thallium.....	3050/6010	25	N.D.
Vanadium.....	3050/6010	5.0	28
Zinc.....	3050/6010	25	260

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

5121120.CAR &lt;9&gt;

son Environmental, Inc.  
 312 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
 Matrix: Soil

QC Sample Group: 5121283-1312

Reported: Jan 5, 1996

## QUALITY CONTROL DATA REPORT

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium
---------	----------	---------	--------	-----------	---------	----------	---------------------

<b>Method:</b>	3050/6010	3050/7060	3050/6010	3050/6010	3050/6010	3050/6010	7196
<b>Analyst:</b>	I. Graske	A. Mehrabi	I. Graske	I. Graske	I. Graske	I. Graske	A. Mehrabi
<b>Concentration:</b>	1.0	0.030	1.0	1.0	1.0	1.0	0.050
<b>Units:</b>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

### LAB. CONTROL SAMPLE DATA

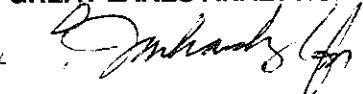
<b>Date Analyzed:</b>	Dec 21, 1995	Dec 18, 1995	Dec 19, 1995	Dec 21, 1995	Dec 19, 1995	Dec 19, 1995	Dec 15, 1995
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1
<b>LCS% Recovery:</b>	98	112	96	98	102	99	98

### MATRIX SPIKE & DUP. DATA

<b>Date Analyzed:</b>	Dec 21, 1995	Dec 21, 1995	Dec 21, 1995	Dec 21, 1995	Dec 21, 1995	Dec 21, 1995	Dec 21, 1995
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1
<b>Matrix Spike % Recovery:</b>	---	90	75	77	89	---	91
<b>Matrix Spike Duplicate % Recovery:</b>	---	69	122	74	90	---	91
<b>Relative % Difference:</b>	---	21	48	4.0	1.1	---	0

Please Note: Matrix Spike & Dup Data are unavailable for Antimony, Chromium, Zinc, and Lead due to high matrix interference.

GREAT LAKES ANALYTICAL



Kevin W. Keeley  
 Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

son Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
Matrix: Soil

QC Sample Group: 5121283-1312

Reported: Jan 5, 1996

## QUALITY CONTROL DATA REPORT

ANALYTE	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium
---------	------	---------	--------	----------	--------	----------	----------

<b>Method:</b>	3050/6010	7471	3050/6010	3050/7741	3050/6010	3050/6010	3050/6010
<b>Analyst:</b>	I. Graske	A. Mehrabi	I. Graske	S. Jankowski	I. Graske	I. Graske	I. Graske
<b>Concentration:</b>	1.0	0.0010	1.0	0.030	1.0	20	1.0
<b>Units:</b>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

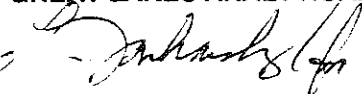
### LAB. CONTROL SAMPLE DATA

<b>Date Analyzed:</b>	Dec 19, 1996	Dec 19, 1996	Dec 21, 1996	Dec 20, 1995	Dec 19, 1995	Dec 21, 1995	Dec 21, 1995
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1
<b>LCS% Recovery:</b>	100	100	100	106	91	94	104

### MATRIX SPIKE & DUP. DATA

<b>Date Analyzed:</b>	Dec 19, 1996	Dec 19, 1996	Dec 21, 1996	Dec 20, 1995	Dec 19, 1995	Dec 21, 1995	Dec 21, 1995
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1
<b>Matrix Spike % Recovery:</b>	94	98	178	92	81	67	85
<b>Matrix Spike Duplicate % Recovery:</b>	70	95	132	90	75	58	118
<b>Relative % Difference:</b>	29	3.1	30	0.38	7.7	14	5.7

GREAT LAKES ANALYTICAL



Kevin W. Keeley  
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Jison Environmental, Inc.  
 312 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Ed Garske

Client Project ID: #9236A, Robettson-Ceco  
 Matrix: Soil

QC Sample Group: 5121283-1312

Reported: Jan 5, 1996

## QUALITY CONTROL DATA REPORT

### ANALYTE

Zinc

Cadmium

Lead

Method: 3050/6010

3050/6010

3050/6010

Analyst: I. Graske

I. Graske

I. Graske

Concentration: 1.0

1.0

1.0

Units: mg/kg

mg/kg

mg/kg

### LAB. CONTROL SAMPLE DATA

Date Analyzed: Dec 21, 1995  
 Instrument I.D.# 1

Dec 19, 1995  
 1

Dec 19, 1995  
 1

LCS%  
 Recovery: 101

90

87

### MATRIX SPIKE & DUP. DATA

Date Analyzed: Dec 21, 1995  
 Instrument I.D.# 1

Dec 19, 1995  
 1

Dec 19, 1995  
 1

Matrix Spike  
 % Recovery: ----

77

----

Matrix Spike  
 Duplicate %  
 Recovery: ----

79

----

Relative %  
 Difference: ----

2.6

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GREAT LAKES ANALYTICAL

  
 Kevin W. Keeley  
 Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Carlson Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson - Ceco  
Matrix: Soil

QC Sample Group: 5121693-95, 1701, 02, 04

Reported: Dec 27, 1995

## QUALITY CONTROL DATA REPORT

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Hexavalent Chromium
---------	----------	---------	--------	-----------	---------	----------	---------------------

Method:	3050/6010	3050/7060	3050/6010	3050/6010	3050/6010	3050/6010	7197
Analyst:	I. Griske	A. Mehrabi	I. Griske	I. Griske	I. Griske	I. Griske	S. Jankowski
Concentration:	1.0	0.30	1.0	1.0	1.0	1.0	0.50
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

### LAB. CONTROL SAMPLE DATA

Date Analyzed:	Dec 22, 1995	Dec 27, 1995	Dec 22, 1995	Dec 22, 1995	Dec 22, 1995	Dec 22, 1995	Dec 21, 1995
Instrument I.D.#	1	1	1	1	1	1	1
LCS% Recovery:	87	108	93	89	103	99	107

### MATRIX SPIKE & DUP. DATA

Date Analyzed:	Dec 22, 1995	Dec 27, 1995	Dec 22, 1995	Dec 22, 1995	Dec 22, 1995	Dec 22, 1995	Dec 21, 1995
Instrument I.D.#	1	1	1	1	1	1	1
Matrix Spike % Recovery:	---	29	34	74	84	---	93
Matrix Spike Duplicate % Recovery:	---	99	32	76	84	---	94
Relative % Difference:	---	20	6.1	2.7	0	---	1.6

Please Note: Antimony, Chromium, Lead, Nickel, Vanadium and Zinc Matrix Spike & Dup QC are unavailable due to high matrix interference.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Larson Environmental, Inc.  
 312 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Ed Garske

Client Project ID: 9236A, Robertson - Ceco  
 Matrix: Soil

QC Sample Group: 5121693-95, 1701, 02, 04

Reported: Dec 27, 1995

## QUALITY CONTROL DATA REPORT

ANALYTE	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium
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<b>Method:</b>	3050/6010	7471	3050/6010	3050/7740	3050/6010	3050/6010	3050/6010
<b>Analyst:</b>	I. Griske	A. Mehrabi	I. Griske	A. Mehrabi	I. Griske	I. Griske	I. Griske
<b>Concentration:</b>	1.0	0.0010	1.0	0.015	1.0	1.0	1.0
<b>Units:</b>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

### LAB. CONTROL SAMPLE DATA

<b>Date Analyzed:</b>	Dec 22, 1995	Dec 26, 1995	Dec 22, 1995	Dec 27, 1995	Dec 22, 1995	Dec 22, 1995	Dec 22, 1995
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>LCS% Recovery:</b>	103	106	88	101	100	96	106
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### MATRIX SPIKE & DUP. DATA

<b>Date Analyzed:</b>	Dec 22, 1995	Dec 26, 1995	Dec 22, 1995	Dec 27, 1995	Dec 22, 1995	Dec 22, 1995	Dec 22, 1995
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>Matrix Spike % Recovery:</b>	---	107	---	19	69	75	---
---------------------------------	-----	-----	-----	----	----	----	-----

<b>Matrix Spike Duplicate % Recovery:</b>	---	102	---	27	74	55	---
---	-----	-----	-----	----	----	----	-----

<b>Relative % Difference:</b>	---	4.1	---	35	7.0	31	---
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GREAT LAKES ANALYTICAL

Kevin W. Keeley  
 Laboratory Director

<b>% Recovery:</b>	Conc. of M.S. - Conc. of Sample Spike Conc. Added	x 100
<b>Relative % Difference:</b>	Conc. of M.S. - Conc. of M.S.D. (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson - Ceco  
Matrix: Soil

QC Sample Group: 5121693-95, 1701, 02, 04

Reported: Dec 27, 1995

**QUALITY CONTROL DATA REPORT****ANALYTE**

Zinc

Method: 3050/6010  
Analyst: I. Griske  
Concentration: 1.0  
Units: mg/kg

**LAB. CONTROL  
SAMPLE DATA**

Date Analyzed: Dec 22, 1995  
Instrument I.D.# 1

LCS%  
Recovery: 91

**MATRIX SPIKE  
& DUP. DATA**

Date Analyzed: Dec 22, 1995  
Instrument I.D.# 1

Matrix Spike  
% Recovery: ---

Matrix Spike  
Duplicate %  
Recovery: ---

Relative %  
Difference: ---

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

5121693.CAR &lt;9&gt;



## CHAIN-OF-CUSTODY RECORD

No. 6936

CARLSON ENVIRONMENTAL, INC.

312 W. Randolph St.

Chicago, IL 60606

(312) 346-2140

PROJ NO  
99364

PROJECT NAME

Robertson-Coco

Lemont, IL

SAMPLERS: (Signature)

Bruce A. Shabino

BKS

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)	REMARKS
1	5B-15 A	10/14	0742		X	Soil Sample 1-3 BGS	1	X	
2	5B-15 B		0747		X		1		
3	5B-15 C		0752		X		1	X	
4	5B-15 D		0758		X		1	X	
5	5B-15 E		0802		X		1		
6	5B-15 F		0809		X		1		
7	Dup-2C				X		1	X	
8	Dup-2A				X		1	X	
9	Dup-2D				X		1	X	
10	5B-16A		0811		X		1	X	
Requisitioned by: (Signature) <i>Scott Bond</i> Date/Time <i>9/14/15</i> Received by: (Signature) <i>Mike Peterson</i>							REMARKS		
Requisitioned by: (Signature) <i>Mike Peterson</i> Date/Time <i>9/14/15</i> Received by: (Signature) <i>K. Kell</i>							* Please refer to the attached lens list and short list of metals		
Requisitioned by: (Signature) <i>Mike Peterson</i> Date/Time <i>9/14/15</i> Received by: (Signature) <i>K. Kell</i>							* For results to Ed Carstke		





# CHAIN-OF-CUSTODY RECORD

No. 6935

CARLSON ENVIRONMENTAL, INC.										312 W. Randolph St.		Chicago, IL 60606		(312) 346-2140	
PROJECT NO. 88367A		PROJECT NAME Robertson-Cec				Lanark, IL									
SAMPLES: (Signature) Bruce A. Shapiro										BAS Shilo					
ITEM NO.		SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)								
1		513-16B	8/24/94	915		X	Soil Sample 3-5 695								
2		513-16C		0924		X	5-7								
3		513-16D		0928		X	7-9								
4		513-16F		0936		X	11-13								
5		513-17A		1005		X	1-3								
6		513-17B		1010		X	3-5								
7		513-18A		1035		X	1-3								
8		513-18B		1036		X	3-5								
9		513-19A		1135		X	1-3								
10		513-19B		1134		X	3-5								
Relinquished by: (Signature) S. H. Bond		Date/Time 8/24/94	Received by: (Signature) K. K. K. K.	Date/Time 8/25/94	Received for Laboratory by: (Signature) K. K. K. K.	Date/Time 8/25/94	Received for Laboratory by: (Signature) K. K. K. K.								
Relinquished by: (Signature) K. K. K. K.		Date/Time 8/24/94	Received by: (Signature) K. K. K. K.	Date/Time 8/25/94	Received for Laboratory by: (Signature) K. K. K. K.	Date/Time 8/25/94	Received for Laboratory by: (Signature) K. K. K. K.								
REMARKS										NUMBER OF CONTAINERS		ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)		REMARKS	
X Please refer to the attached long list and short list of metals.										1		X		5121293	
X For results to Ed Carlsko										1		X		5121294	
										1		X		5121295	
										1		X		5121296	
										1		X		5121297	
										1		X		5121298	
										1		X		5121299	
										1		X		5121300	
										1		X		5121301	
										1		X		5121302	



## CHAIN-OF-CUSTODY RECORD

No. 6934

CARLSON ENVIRONMENTAL, INC.

312 W. Randolph St.

Chicago, IL 60606

(312) 346-2140

PROJ. NO.  
CP364PROJECT NAME  
Robertson-Celo

Lemont, IL

SAMPLERS: (Signature)

Bruce A. Shabino

BAS Shabino

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)	REMARKS
1	B-19C	12/14	11:22		X	Soil Sample 5-7 bags	1	X	5121303
2	B-19D		11:53		X	2-9 bags	1		held 5121304
3	B-20A		11:32		X	1-3	1	X	5121305
4	B-20B		11:37		X	3-5	1	X	5121306
5	B-20D		12:44		X	2-9	1	X	5121307
6	B-21A		13:30		X	1-3	1	X	5121308
7	B-21B		2:40		X	3-5	1	X	5121309
8	B-21C		2:46		X	3-7	1	X	5121310
9	B-21D		13:55		X	2-9	1		held 5121311
10	B-21EF		13:55		X	11-13	1		held 5121312

Relinquished by: (Signature) *SAH* Date/Time *12/14/15* Received by: (Signature) *SAH* Date/Time *12/14/15*

Relinquished by: (Signature) *SAH* Date/Time *12/14/15* Received by: (Signature) *SAH* Date/Time *12/14/15*

Relinquished by: (Signature) *SAH* Date/Time *12/14/15* Received by: (Signature) *SAH* Date/Time *12/14/15*

REMARKS  
\* Please refer to the attached lens list and short list of metals  
\* For new 15 to 60 Garsko



CHAIN-OF-CUSTODY RECORD

No. 6936

CARLSON ENVIRONMENTAL, INC.

312 W. Randolph St.

Chicago, IL 60606

(312) 346-2140

PROJ. NO. 9364 PROJECT NAME Roberts-Coe Lemont, IL

SAMPLES: (Signature) Bruce A. Shabino BASHINS

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)	REMARKS
1	SB-15 A	10/14	0742		X	Soil Sample 1-3 BGS	1	X	well 5121283
2	SB-15 B	10/17	0747		X	3-3	1		well 5121284
3	SB-15 C	10/18	0752		X	5-7	1	X	5121285
4	SB-15 D	10/18	0758		X	7-9	1	X	5121286
5	SB-15 E	10/20	0802		X	5-11	1		well 5121287
6	SB-15 F	10/20	0809		X	11-13	1		well 5121288
7	Dup-dC				X		1	X	5121289
8	Dup-dA				X		1	X	5121290
9	Dup-dD				X		1	X	5121291
10	SB-16 A	10/11			X	1-3 BGS	1	X	5121292
REMARKS									
* Please refer to the attached logs list and short list of metals									
* For results to Ed Carstke									



## CHAIN-OF-CUSTODY RECORD

No. 6935

[illegible]



## No. 6934

(312) 346-2140

Lemont, IL

1345766

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	REMARKS
1	B-19C	10/14	1412		X	Soil Sample 5-7 bag	5121303
2	B-19D		1153	X		bag	5121304
3	B-20A		1132	X		1-3	5121305
4	B-20B		1137	X		3-5	5121306
5	B-20D		1144	X		3-9	5121307
6	B-21A		1130	X		1-3	5121308
7	B-21B		1140	X		3-5	5121309
8	B-21C		1146	X		3-7	5121310
9	B-21D		1155	X		3-9	5121311
10	B-21E		1155	X		11-13	5121312

**REMARKS**

\* Please refer to the attached lens list and short list of metals

\* For results to Ed Gasko



## CHAIN-OF-CUSTODY RECORD

No. 6919

CARLSON ENVIRONMENTAL, INC.

312 W. Randolph St.

Chicago, IL 60606

(312) 346-2140

PROJ. NO.  
7236A

PROJECT NAME

Robertson-Cecco

SAMPLERS:

(Signature) *BA Shabino*

BA Shabino

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)	REMARKS	
1	SB-27A	12-20-85	8:12		X	Soil Sample 1-3'	1	X	5121693	
2	SB-27B		8:17		X	3-5'	1	X	5121694	
3	SB-27C		8:24		X	5-7'	1	X	5121695	
4	SB-27D		8:25		X	7-9'	1		5121696	Hold
5	SB-27E		8:28		X	9-11'	1		5121697	Hold
6	SB-27F		8:33		X	11-13'	1		5121698	Hold
7	SB-27G		8:35		X	13-15'	1		5121699	Hold
8	SB-27H		8:40		X	15-16.5'	1		5121700	Hold
9										
10										

Reinquired by (signature) *BA Shabino* Date/Time 12-20-85 11:30

Received by (signature) *BA Shabino*

Relinquished by (signature) *BA Shabino* Date/Time 12-20-85 11:30

Received for Laboratory by (signature) *BA Shabino*

REMARKS

Please refer to attached Long and Short Lists For Laboratory Analyses

Fast results to Ed Ganske.

Received ON ICE



## CHAIN-OF-CUSTODY RECORD

No. 6908

CARLSON ENVIRONMENTAL, INC.

312 W. Randolph St.

Chicago, IL 60606

(312) 346-2140

PROJ. NO. PROJECT NAME

9236A Robertson - CECO

SAMPLERS:

(Signature)

BAS Shubin

BA Shubino

NUMBER OF CONTAINERS

ANALYSIS DESIRED  
(INDICATE SEPARATE CONTAINERS)Long Metals LAST  
Short Metals LAST

REMARKS

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)	REMARKS
1	SB-28A	12-20-95	9:04		X	Soil Sample 1-3'	1	X	5121701
2	SB-28B	1	9:07		X	3-5'	1	X	5121702
3	SB-28C	1	9:10		X	5-7'	1		5121703
4	SB-28D	1	9:16		X	7-9'	1	X	5121704
5	SB-28E	1	9:19		X	9-11'	1		5121705
6	SB-28F	1	9:24		X	11-13'	1		5121706
7									
8									
9									
10									
REINQUIRED BY (SIGNATURE) DATE/TIME RECEIVED BY (SIGNATURE)									
REINQUIRED BY (SIGNATURE) DATE/TIME RECEIVED BY (SIGNATURE)									
REINQUIRED BY (SIGNATURE) DATE/TIME RECEIVED BY (SIGNATURE)									

REMARKS

Please refer to attached Log + Short Lists  
For Laboratory Analyses

For results to Ed Gonske

Received ON ICE

**GROUND WATER / SURFACE WATER  
LABORATORY REPORTS**





1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Ison Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Water: WS-02  
Lab Number: 512-1135

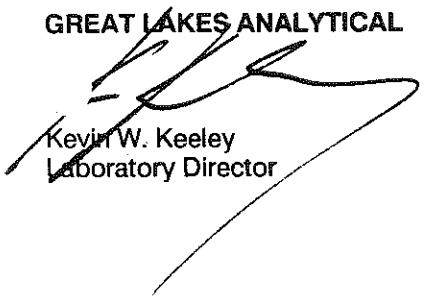
Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 15, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic.....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	0.036
Mercury.....	7471	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Olson Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Ed Garske

Client Project ID: 9236A, Robertson Ceco - Lemont, IL  
Sample Descript: Water: WS-05  
Lab Number: 512-1136

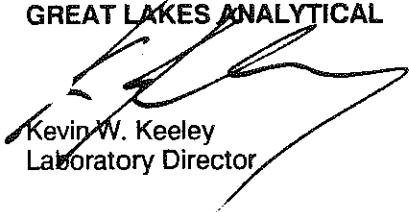
Sampled: Dec 12, 1995  
Received: Dec 12, 1995  
Analyzed: Dec 15, 1995  
Reported: Dec 19, 1995

**LABORATORY ANALYSIS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic.....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury.....	7471	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Johnson Environmental, Inc.  
100 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.  
Sample Descript: Water: WS-7  
Lab Number: 603-1600

Sampled: Mar 25, 1996  
Received: Mar 25, 1996  
Analyzed: Mar 27-29, 1996  
Reported: Apr 1, 1996

**METALS**

Analyte	EPA Method	Detection Limit mg/L (ppm)	Sample Results mg/L (ppm)
Antimony.....	3015/6010	0.10	N.D.
Arsenic.....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
<b>Lead.....</b>	<b>3015/7421</b>	<b>0.0050</b>	<b>0.0057</b>
Mercury.....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.50	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

6031599.CAR &lt;5&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Johnson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.  
Sample Descript: Water: WS-8  
Lab Number: 603-1603

Sampled: Mar 25, 1996  
Received: Mar 25, 1996  
Analyzed: Mar 27-29, 1996  
Reported: Apr 1, 1996

**METALS**

Analyte	EPA Method	Detection Limit mg/L (ppm)	Sample Results mg/L (ppm)
Antimony.....	3015/6010	0.10	N.D.
Arsenic.....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
<b>Lead.....</b>	<b>3015/7421</b>	<b>0.0050</b>	<b>0.0070</b>
Mercury.....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.50	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

6031599.CAR &lt;6&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.  
Sample Descript: Water: WS-9  
Lab Number: 603-1604

Sampled: Mar 25, 1996  
Received: Mar 25, 1996  
Analyzed: Mar 27-29, 1996  
Reported: Apr 1, 1996

### METALS

Analyte	EPA Method	Detection Limit mg/L (ppm)	Sample Results mg/L (ppm)
Antimony.....	3015/6010	0.10	N.D.
Arsenic.....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium.....	3015/6010	0.010	N.D.
<b>Chromium.....</b>	<b>3015/6010</b>	<b>0.010</b>	<b>0.039</b>
<b>Lead.....</b>	<b>3015/7421</b>	<b>0.0050</b>	<b>0.037</b>
Mercury.....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.50	N.D.
<b>Vanadium.....</b>	<b>3015/6010</b>	<b>0.10</b>	<b>0.17</b>
Zinc.....	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.  
Sample Descript: Water: WS-10  
Lab Number: 603-1605

Sampled: Mar 25, 1996  
Received: Mar 25, 1996  
Analyzed: Mar 27-29, 1996  
Reported: Apr 1, 1996

### METALS

Analyte	EPA Method	Detection Limit mg/L (ppm)	Sample Results mg/L (ppm)
Antimony.....	3015/6010	0.10	N.D.
Arsenic.....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
<b>Lead.....</b>	<b>3015/7421</b>	<b>0.0050</b>	<b>0.013</b>
Mercury.....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.50	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

son Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.  
Matrix: Soil  
Method: Metals  
QC Sample Group: 6031599, 1601-1602, 1606

Reported: Apr 1, 1996

## QUALITY CONTROL DATA REPORT

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
---------	----------	---------	--------	-----------	---------	----------	------

<b>Method:</b>	3050/6010	3050/7060	3050/6010	3050/6010	3050/6010	3050/6010	3050/6010
<b>Analyst:</b>	I. Graske	A. Mehrabi	I. Graske	I. Graske	I. Graske	I. Graske	I. Graske
<b>Concentration:</b>	1.0	0.030	1.0	1.0	1.0	1.0	1.0
<b>Units:</b>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

### LAB. CONTROL SAMPLE DATA

<b>Date Analyzed:</b>	Mar 27, 1996	Mar 28, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>LCS% Recovery:</b>	92	89	98	99	99	101	99
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<b>Control Limits:</b>	80-120	80-120	80-120	80-120	80-120	80-120	80-120
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### MATRIX SPIKE & DUP. DATA

<b>Date Analyzed:</b>	Mar 27, 1996	Mar 28, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>Matrix Spike % Recovery:</b>	7.5	100	90	86	91	79	75
---------------------------------	-----	-----	----	----	----	----	----

<b>Matrix Spike Duplicate % Recovery:</b>	8.4	93	89	84	88	78	74
---	-----	----	----	----	----	----	----

<b>Relative % Difference:</b>	11	2.8	1.1	2.4	3.4	1.3	1.3
-------------------------------	----	-----	-----	-----	-----	-----	-----

<b>Control Limits:</b>	74-116	64-117	64-114	76-101	75-95	78-106	75-99
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GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director

<b>% Recovery:</b>	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
<b>Relative % Difference:</b>	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

son Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.  
Matrix: Soil  
Method: Metals  
QC Sample Group: 6031599, 1601-1602, 1606

Reported: Apr 1, 1996

## QUALITY CONTROL DATA REPORT

ANALYTE	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
---------	---------	--------	----------	--------	----------	----------	------

<b>Method:</b>	7471	3015/6010	3015/7740	3015/6010	3015/6010	3015/6010	3015/6010
<b>Analyst:</b>	A. Mehrabi	I. Graske	A. Mehrabi	I. Graske	I. Graske	I. Graske	I. Graske
<b>Concentration:</b>	0.0010	1.0	0.030	1.0	2.0	1.0	1.0
<b>Units:</b>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

### LAB. CONTROL SAMPLE DATA

<b>Date Analyzed:</b>	Mar 29, 1996	Mar 27, 1996	Mar 28, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>LCS% Recovery:</b>	95	97	96	90	94	101	100
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<b>Control Limits:</b>	80-120	80-120	80-120	80-120	80-120	80-120	80-120
------------------------	--------	--------	--------	--------	--------	--------	--------

### MATRIX SPIKE & DUP. DATA

<b>Date Analyzed:</b>	Mar 29, 1996	Mar 27, 1996	Mar 28, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>Matrix Spike % Recovery:</b>	91	75	62	58	72	92	84
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<b>Matrix Spike Duplicate % Recovery:</b>	95	74	67	61	67	89	80
---	----	----	----	----	----	----	----

<b>Relative % Difference:</b>	2.7	1.3	7.1	5.0	7.2	3.3	4.9
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<b>Control Limits:</b>	90-109	65-104	59-125	50-110	63-135	75-125	80-102
------------------------	--------	--------	--------	--------	--------	--------	--------

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director

<b>% Recovery:</b>	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
<b>Relative % Difference:</b>	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



son Environmental, Inc.  
312 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.

Matrix: Water

Method: Metals

QC Sample Group: 6031600, 1603-1605

Reported: Apr 1, 1996

## QUALITY CONTROL DATA REPORT

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
---------	----------	---------	--------	-----------	---------	----------	------

<b>Method:</b>	3015/6010	3015/7060	3015/6010	3015/6010	3015/6010	3015/6010	3015/7421
<b>Analyst:</b>	I. Graske	A. Mehrabi	I. Graske	I. Graske	I. Graske	I. Graske	A. Mehrabi
<b>Concentration:</b>	1.0	0.030	1.0	1.0	1.0	1.0	0.030
<b>Units:</b>	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L

### LAB. CONTROL SAMPLE DATA

<b>Date Analyzed:</b>	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>LCS%</b>							
<b>Recovery:</b>	100	101	102	100	103	104	107

<b>Control Limits:</b>	80-120	80-120	80-120	80-120	80-120	80-120	80-120
------------------------	--------	--------	--------	--------	--------	--------	--------

### MATRIX SPIKE & DUP. DATA

<b>Date Analyzed:</b>	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>Matrix Spike</b>							
<b>% Recovery:</b>	103	104	102	99	100	98	97

<b>Matrix Spike</b>							
<b>Duplicate %</b>							
<b>Recovery:</b>	105	102	104	99	100	96	98

<b>Relative %</b>							
<b>Difference:</b>	1.9	1.2	1.9	0	0	2.1	0.49

<b>Control Limits:</b>	80-107	75-107	65-99	79-117	82-98	75-96	79-101
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GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director

<b>% Recovery:</b>	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
<b>Relative % Difference:</b>	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Larson Environmental, Inc.  
 312 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Peter Barys

Client Project ID: 9236A, Robertson, CECO Corp.

Matrix: Water

Method: Metals

QC Sample Group: 6031600, 1603-1605

Reported: Apr 1, 1996

## QUALITY CONTROL DATA REPORT

ANALYTE	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
---------	---------	--------	----------	--------	----------	----------	------

<b>Method:</b>	7470	3015/6010	3015/7740	3015/6010	3015/6010	3015/6010	3015/6010
<b>Analyst:</b>	A. Mehrabi	I. Griske	A. Mehrabi	I. Griske	I. Griske	I. Griske	I. Griske
<b>Concentration:</b>	0.0010	1.0	0.030	1.0	2.0	1.0	1.0
<b>Units:</b>	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L

### LAB. CONTROL SAMPLE DATA

<b>Date Analyzed:</b>	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>LCS%</b>							
<b>Recovery:</b>	100	103	107	99	102	103	103

<b>Control Limits:</b>	80-120	80-120	80-120	80-120	80-120	80-120	80-120
------------------------	--------	--------	--------	--------	--------	--------	--------

### MATRIX SPIKE & DUP. DATA

<b>Date Analyzed:</b>	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996	Mar 27, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>Matrix Spike</b>							
<b>% Recovery:</b>	102	92	99	12	92	102	106

<b>Matrix Spike</b>							
<b>Duplicate %</b>							
<b>Recovery:</b>	106	92	98	16	87	103	108

<b>Relative %</b>							
<b>Difference:</b>	3.8	0	1.4	29	5.6	0.98	1.9

<b>Control Limits:</b>	84-107	84-109	33-117	68-98	71-129	75-125	53-145
------------------------	--------	--------	--------	-------	--------	--------	--------

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
 Laboratory Director

% Recovery:  $\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$

Relative % Difference:  $\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Date: January 23, 1996

Person Environmental, Inc.  
22 W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Project: #9236A

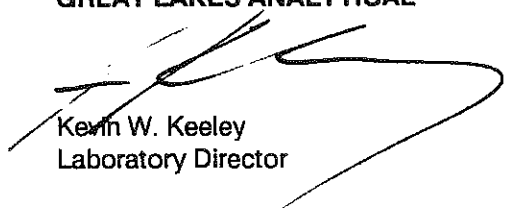
Enclosed are the results from 5 water samples received at Great Lakes Analytical on January 17, 1996. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
6011107	Water: Old Well #1	1/16/96	Total Metals Dissolved Metals
6011108	Water: Old Well #2	1/16/96	Total Metals Dissolved Metals
6011109	Water: Old Well #3	1/16/96	Total Metals Dissolved Metals
6011110	Water: Old Well #4	1/16/96	Total Metals Dissolved Metals
1111	Water: MW-K	1/16/96	Total Metals Dissolved Metals

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Date: January 24, 1996

Corison Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Project: 9236A, Robertson-Ceco Lemont Site

Enclosed are the results from 6 water samples received at Great Lakes Analytical on January 18, 1996. The requested analyses are listed below:

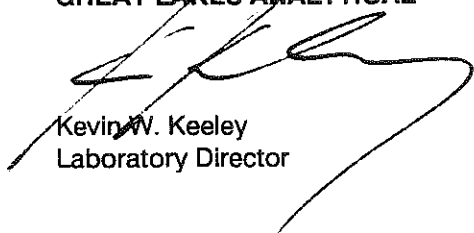
SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
6011181	Water: MW-J	1/17/96	Dissolved Metals Total Metals
6011182	Water: MW-B	1/17/96	Dissolved Metals Total Metals
6011183	Water: MW-C	1/17/96	Dissolved Metals Total Metals
6011184	Water: MW-D	1/17/96	Dissolved Metals Total Metals
1185	Water: Dup-1	1/17/96	Dissolved Metals Total Metals
6011186	Water: FB-1	1/17/96	Dissolved Metals Total Metals

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: #9236A  
Sample Descript: Water: Old Well #1  
Lab Number: 601-1107

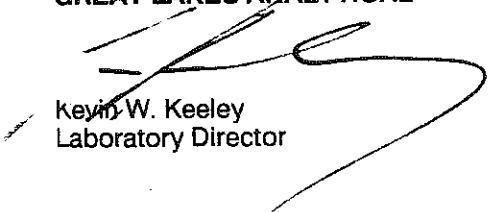
Sampled: Jan 16, 1996  
Received: Jan 17, 1996  
Analyzed: Jan 18-23, 1996  
Reported: Jan 23, 1996

**TOTAL METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium .....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Lead .....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel .....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

6011107.CAR &lt;1&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: #9236A  
Sample Descript: Water: Old Well #2  
Lab Number: 601-1108

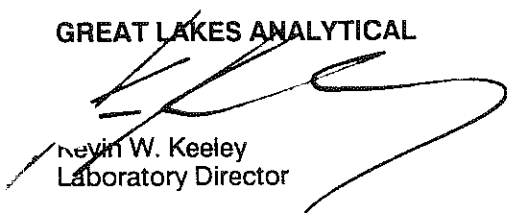
Sampled: Jan 16, 1996  
Received: Jan 17, 1996  
Analyzed: Jan 18-23, 1996  
Reported: Jan 23, 1996

**TOTAL METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium .....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Lead .....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel .....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

6011107.CAR &lt;2&gt;

Carlson Environmental, Inc.  
 200 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Sam Bodine

Client Project ID: #9236A  
 Sample Descript: Water: Old Well #3  
 Lab Number: 601-1109

Sampled: Jan 16, 1996  
 Received: Jan 17, 1996  
 Analyzed: Jan 18-23, 1996  
 Reported: Jan 23, 1996

### TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium .....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Lead .....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel .....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
 Kevin W. Keeley  
 Laboratory Director

Carlson Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: #9236A  
Sample Descript: Water: Old Well #4  
Lab Number: 601-1110

Sampled: Jan 16, 1996  
Received: Jan 17, 1996  
Analyzed: Jan 18-23, 1996  
Reported: Jan 23, 1996

### TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium .....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Lead .....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel .....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director





1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
100 W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: #9236A  
Sample Descript: Water: MW-K  
Lab Number: 601-1111

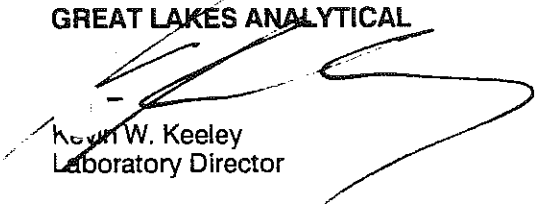
Sampled: Jan 16, 1996  
Received: Jan 17, 1996  
Analyzed: Jan 18-23, 1996  
Reported: Jan 23, 1996

**TOTAL METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium .....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Lead .....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel .....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

6011107.CAR &lt;5&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
100 W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: #9236A  
Sample Descript: Water: Old Well #1  
Lab Number: 601-1107

Sampled: Jan 16, 1996  
Received: Jan 17, 1996  
Analyzed: Jan 18-23, 1996  
Reported: Jan 23, 1996

**DISSOLVED METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic.....	3015/7060	0.050	N.D.
Barium .....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Lead .....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel .....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

6011107.CAR &lt;6&gt;

Carlson Environmental, Inc.  
 100 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Sam Bodine

Client Project ID: #9236A  
 Sample Descript: Water: Old Well #2  
 Lab Number: 601-1108

Sampled: Jan 16, 1996  
 Received: Jan 17, 1996  
 Analyzed: Jan 18-23, 1996  
 Reported: Jan 23, 1996

### DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic.....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury.....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
 Kevin W. Keeley  
 Laboratory Director

Carlson Environmental, Inc.  
 100 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Sam Bodine

Client Project ID: #9236A  
 Sample Descript: Water: Old Well #3  
 Lab Number: 601-1109

Sampled: Jan 16, 1996  
 Received: Jan 17, 1996  
 Analyzed: Jan 18-23, 1996  
 Reported: Jan 23, 1996

### DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic.....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury.....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
 Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
602 W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: #9236A  
Sample Descript: Water: Old Well #4  
Lab Number: 601-1110

Sampled: Jan 16, 1996  
Received: Jan 17, 1996  
Analyzed: Jan 18-23, 1996  
Reported: Jan 23, 1996

**DISSOLVED METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic.....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury.....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

6011107.CAR &lt;9&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: #9236A  
Sample Descript: Water: MW-K  
Lab Number: 601-1111

Sampled: Jan 16, 1996  
Received: Jan 17, 1996  
Analyzed: Jan 18-23, 1996  
Reported: Jan 23, 1996

**DISSOLVED METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic.....	3015/7060	0.050	N.D.
Barium .....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Lead .....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel .....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

6011107.CAR &lt;10&gt;

Carlson Environmental, Inc.  
 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Sam Bodine

Client Project ID: #9236A  
 Matrix: Water

QC Sample Group: 6011107-1111

Reported: Jan 23, 1996

## QUALITY CONTROL DATA REPORT

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
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<b>Method:</b>	3015/6010	3015/7060	3015/6010	3015/6010	3015/6010	3015/6010	3015/7421
<b>Analyst:</b>	I. Graske	S. Jankowski	I. Graske	I. Graske	I. Graske	I. Graske	A. Mehrabi
<b>Concentration:</b>	2.0	0.030	1.0	1.0	0.50	1.0	0.030
<b>Units:</b>	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L

### LAB. CONTROL SAMPLE DATA

<b>Date Analyzed:</b>	Jan 23, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996	Jan 22, 1996	Jan 22, 1996	Jan 19, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>LCS% Recovery:</b>	96	103	102	99	103	105	100
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### MATRIX SPIKE & DUP. DATA

<b>Date Analyzed:</b>	Jan 23, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996	Jan 22, 1996	Jan 22, 1996	Jan 19, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>Matrix Spike % Recovery:</b>	97	108	102	96	98	95	108
---------------------------------	----	-----	-----	----	----	----	-----

<b>Matrix Spike Duplicate % Recovery:</b>	96	103	99	96	99	96	104
---	----	-----	----	----	----	----	-----

<b>Relative % Difference:</b>	1.0	4.7	3.0	0	1.0	1.0	3.3
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GREAT LAKES ANALYTICAL

  
 William W. Keeley  
 Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Ison Environmental, Inc.  
 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Sam Bodine

Client Project ID: #9236A  
 Matrix: Water

QC Sample Group: 6011107-1111

Reported: Jan 23, 1996

## QUALITY CONTROL DATA REPORT

ANALYTE	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
---------	---------	--------	----------	--------	----------	----------	------

<b>Method:</b>	7470	3015/6010	3015/7740	3015/6010	3015/6010	3015/6010	3015/6010
<b>Analyst:</b>	A. Mehrabi	I. Graske	S. Jankowski	I. Graske	I. Graske	I. Graske	I. Graske
<b>Concentration:</b>	0.0010	1.0	0.030	0.50	2.0	1.0	1.0
<b>Units:</b>	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L

### LAB. CONTROL SAMPLE DATA

<b>Date Analyzed:</b>	Jan 18, 1996	Jan 23, 1996	Jan 20, 1996	Jan 22, 1996	Jan 23, 1996	Jan 23, 1996	Jan 23, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>LCS% Recovery:</b>	91	99	105	106	96	104	99
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### MATRIX SPIKE & DUP. DATA

<b>Date Analyzed:</b>	Jan 18, 1996	Jan 23, 1996	Jan 20, 1996	Jan 22, 1996	Jan 23, 1996	Jan 23, 1996	Jan 23, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>Matrix Spike % Recovery:</b>	98	88	99	3.4	90	101	98
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<b>Matrix Spike Duplicate % Recovery:</b>	97	85	97	3.8	62	98	97
---	----	----	----	-----	----	----	----

<b>Relative % Difference:</b>	1.0	3.5	1.7	11	37	3.0	1.0
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GREAT LAKES ANALYTICAL

Kevin W. Keeley  
 Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$





## CHAIN-OF-CUSTODY RECORD

No. 6024

CARLSON ENVIRONMENTAL, INC. 312 W. Randolph St. Chicago, IL 60606 (312) 346-2140

PROJ. NO. 4236A PROJECT NAME Robertson-Ceco Site/Lowant

SAMPLERS: (Signature)

Samuel T. Budine

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)
1	old well #1	1/16				ground water sample
2	old well #2					
3	old well #3					
4	old well #4					
5	MW-K					
6						
7						
8						
9						
10						

NUMBER  
OF CONTAINERSANALYSIS DESIRED  
(INDICATE  
SEPARATE  
CONTAINERS)Total Metals \*  
Dissolved Metals \*  
Please Filter

REMARKS

6011107

6011108

6011109

6011110

6011111

REMARKS

Please fax results to Peter Bangs

@ 312/346-6956

\* Please note the attached list of metals. Also please Filter the unfiltered samples for dissolved metals.

5 day TAT

Received by: (Signature)

Date/Time

1/7 1315

Signature

Date/Time

1/17/96

Signature

Date/Time

1/17/96

Signature



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
7 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-B  
Lab Number: 601-1182

Sampled: Jan 17, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 24, 1996

**LABORATORY ANALYSIS: DISSOLVED METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3050/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.050	N.D.
Silver.....	3015/6010	0.010	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

6011181.CAR &lt;2&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
10 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-C  
Lab Number: 601-1183

Sampled: Jan 17, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 24, 1996

**LABORATORY ANALYSIS: DISSOLVED METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3050/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.050	N.D.
Silver.....	3015/6010	0.010	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

6011181.CAR &lt;3&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
1 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-D  
Lab Number: 601-1184

Sampled: Jan 17, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 24, 1996

## LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3050/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.050	N.D.
Silver.....	3015/6010	0.010	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

6011181.CAR <4>



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
10 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-J  
Lab Number: 601-1181

Sampled: Jan 17, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 24, 1996

**LABORATORY ANALYSIS: DISSOLVED METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic.....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3050/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury.....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.050	N.D.
Silver.....	3015/6010	0.010	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

6011181.CAR &lt;1&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-J  
Lab Number: 601-1181

Sampled: Jan 17, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 24, 1996

**LABORATORY ANALYSIS: TOTAL METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3050/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.050	N.D.
Silver.....	3015/6010	0.010	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

6011181.CAR &lt;7&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-B  
Lab Number: 601-1182

Sampled: Jan 17, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 24, 1996

**LABORATORY ANALYSIS: TOTAL METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3050/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.050	N.D.
Silver.....	3015/6010	0.010	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

6011181.CAR &lt;8&gt;



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-C  
Lab Number: 601-1183

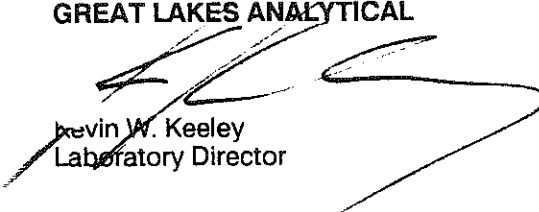
Sampled: Jan 17, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 24, 1996

**LABORATORY ANALYSIS: TOTAL METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3050/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.050	N.D.
Silver.....	3015/6010	0.010	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

  
Kevin W. Keeley  
Laboratory Director

6011181.CAR &lt;9&gt;





1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-D  
Lab Number: 601-1184

Sampled: Jan 17, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 24, 1996

### LABORATORY ANALYSIS: TOTAL METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3050/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.050	N.D.
Silver.....	3015/6010	0.010	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

6011181.CAR <10>



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site  
Sample Descript: Water: Dup-1  
Lab Number: 601-1185

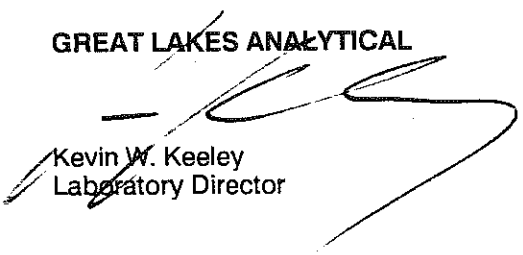
Sampled: Jan 17, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 24, 1996

### LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3050/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.050	N.D.
Silver.....	3015/6010	0.010	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

6011181.CAR <5>



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site  
Sample Descript: Water: FB-1  
Lab Number: 601-1186

Sampled: Jan 17, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 24, 1996

## LABORATORY ANALYSIS: DISSOLVED METALS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Antimony.....	3015/6010	0.10	N.D.
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Beryllium.....	3015/6010	0.010	N.D.
Cadmium .....	3015/6010	0.010	N.D.
Chromium.....	3050/6010	0.010	N.D.
Lead.....	3015/7421	0.0050	N.D.
Mercury .....	7470	0.0020	N.D.
Nickel.....	3015/6010	0.050	N.D.
Selenium.....	3015/7740	0.050	N.D.
Silver.....	3015/6010	0.010	N.D.
Thallium.....	3015/6010	0.20	N.D.
Vanadium.....	3015/6010	0.10	N.D.
Zinc.....	3015/6010	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

  
Kevin W. Keeley  
Laboratory Director

6011181.CAR <6>

Nelson Environmental, Inc.  
 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site  
 Matrix: Water

QC Sample Group: 6011181-1186

Reported: Jan 24, 1996

## QUALITY CONTROL DATA REPORT

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead
---------	----------	---------	--------	-----------	---------	----------	------

<b>Method:</b>	3015/6010	3015/7060	3015/6010	3015/6010	3015/6010	3015/6010	3015/7421
<b>Analyst:</b>	I. Graske	S. Jankowski	I. Graske	I. Graske	I. Graske	I. Graske	S. Jankowski
<b>Concentration:</b>	2.0	0.030	1.0	1.0	0.50	1.0	0.030
<b>Units:</b>	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L

### LAB. CONTROL SAMPLE DATA

<b>Date Analyzed:</b>	Jan 23, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996	Jan 22, 1996	Jan 22, 1996	Jan 19, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>LCS% Recovery:</b>	97	100	99	98	100	100	100
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### MATRIX SPIKE & DUP. DATA

<b>Date Analyzed:</b>	Jan 23, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996	Jan 22, 1996	Jan 22, 1996	Jan 19, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>Matrix Spike % Recovery:</b>	96	111	100	98	99	97	103
---------------------------------	----	-----	-----	----	----	----	-----

<b>Matrix Spike Duplicate % Recovery:</b>	95	108	102	99	101	100	104
---	----	-----	-----	----	-----	-----	-----

<b>Relative % Difference:</b>	0.37	3.2	2.0	1.0	2.7	3.0	1.2
-------------------------------	------	-----	-----	-----	-----	-----	-----

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
 Laboratory Director

<b>% Recovery:</b>	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
<b>Relative % Difference:</b>	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Ison Environmental, Inc.  
 1 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Peter Barys

Client Project ID: 9236A, Robertson-Ceco Lemont Site  
 Matrix: Water

QC Sample Group: 6011181-1186

Reported: Jan 24, 1996

## QUALITY CONTROL DATA REPORT

ANALYTE	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
---------	---------	--------	----------	--------	----------	----------	------

<b>Method:</b>	7470	3015/6010	3015/7740	3015/6010	3015/6010	3015/6010	3015/6010
<b>Analyst:</b>	A. Mehrabi	I. Grasko	S. Jankowski	I. Grasko	I. Grasko	I. Grasko	I. Grasko
<b>Concentration:</b>	0.0010	1.0	0.030	0.50	2.0	1.0	1.0
<b>Units:</b>	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L

### LAB. CONTROL SAMPLE DATA

<b>Date Analyzed:</b>	Jan 22, 1996	Jan 23, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996	Jan 23, 1996	Jan 23, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>LCS% Recovery:</b>	100	97	99	103	92	104	100
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### MATRIX SPIKE & DUP. DATA

<b>Date Analyzed:</b>	Jan 22, 1996	Jan 23, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996	Jan 23, 1996	Jan 23, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>Matrix Spike % Recovery:</b>	100	96	98	9.5	96	102	98
---------------------------------	-----	----	----	-----	----	-----	----

<b>Matrix Spike Duplicate % Recovery:</b>	100	97	100	15	86	103	99
---	-----	----	-----	----	----	-----	----

<b>Relative % Difference:</b>	0	1.0	1.7	43	12	98	1.0
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GREAT LAKES ANALYTICAL

  
 Kevin W. Keeley  
 Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



CHAIN-OF-CUSTODY RECORD

No. 68

CARLSON ENVIRONMENTAL, INC.				Chicago, IL 60606				(312) 346-2140			
PROJ. NO. A736A		PROJECT NAME Robertson-Ceco		Lancaster site		ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)		NUMBER OF CONTAINERS		REMARKS	
SAMPLERS: Samuel T. Badine		DATE		TIME		SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)		ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)		REMARKS	
ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB						
1	MW-J	4/7			X	Send H <sub>2</sub> O Samples		XX		6011181	
2	MW-B				X			XX		6011182	
3	MW-C				X			XX		6011183	
4	MW-D				X			XX		6011184	
5	Dup-1				X			XX		6011185	
6	FB-1				X			XX		6011186	
7											
8											
9											
10											

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
	4/8/85		4/8/85
	4/8/85		4/8/85
	4/8/85		4/8/85

REMARKS: Please Fax results to Pete Barrys @ 312-346-6956  
\* Please note the attached list of metals  
Please Filter the untrapped samples for dissolved metals  
5 day TAT Received on Ice



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Date: January 26, 1996

Robertson Environmental, Inc.  
22 W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Project: 9233A, Robertson-Ceco Lemont Site

Enclosed are the results from 6 water samples received at Great Lakes Analytical on January 18, 1996. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
6011175	Water: MW-D1	1/18/96	Dissolved Metals Total Metals Chloride, EPA 330.3 Organic Carbon, EPA 415.1 pH by EPA 9040 Phenol, EPA 420.4 Specific Conductance Sulfate, EPA 375.2 Total Organic Halogens
6011176	Water: MW-D2	1/18/96	Dissolved Metals Total Metals Chloride, EPA 330.3 Organic Carbon, EPA 415.1 pH by EPA 9040 Phenol, EPA 420.4 Specific Conductance Sulfate, EPA 375.2 Total Organic Halogens
6011177	Water: MW-D3	1/18/96	Dissolved Metals Total Metals Chloride, EPA 330.3 Organic Carbon, EPA 415.1 pH by EPA 9040 Phenol, EPA 420.4 Specific Conductance Sulfate, EPA 375.2 Total Organic Halogens
6011178	Water: MW-D4	1/18/96	Dissolved Metals Total Metals Chloride, EPA 330.3 Organic Carbon, EPA 415.1 pH by EPA 9040 Phenol, EPA 420.4

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
6011178	Water: MW-D4	1/18/96	Specific Conductance Sulfate, EPA 375.2 Total Organic Halogens
6011179	Water: MW-D5	1/18/96	Dissolved Metals Total Metals Chloride, EPA 330.3 Organic Carbon, EPA 415.1 pH by EPA 9040 Phenol, EPA 420.4 Specific Conductance Sulfate, EPA 375.2 Total Organic Halogens
6011180	Water: Dup-1	1/18/96	Dissolved Metals Total Metals Chloride, EPA 330.3 Organic Carbon, EPA 415.1 pH by EPA 9040 Phenol, EPA 420.4 Specific Conductance Sulfate, EPA 375.2 Total Organic Halogens

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director





1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-D1  
Lab Number: 601-1175

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 26, 1996

**LABORATORY ANALYSIS: DISSOLVED METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
<b>Iron.....</b>	<b>3015/6010</b>	<b>0.050</b>	<b>0.98</b>
Lead.....	3015/7421	0.0050	N.D.
Manganese.....	3015/6010	0.10	N.D.
Mercury.....	7470	0.0020	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
<b>Sodium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>35</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

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Carlson Environmental, Inc.  
1 W. Randolph Street  
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Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-D2  
Lab Number: 601-1176

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 26, 1996

**LABORATORY ANALYSIS: DISSOLVED METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Iron.....	3015/6010	0.050	N.D.
Lead.....	3015/7421	0.0050	N.D.
Manganese.....	3015/6010	0.10	N.D.
Mercury.....	7470	0.0020	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Sodium.....	3050/6010	0.50	24

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

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Carlson Environmental, Inc.  
500 W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-D3  
Lab Number: 601-1177

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 26, 1996

**LABORATORY ANALYSIS: DISSOLVED METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
<b>Iron.....</b>	<b>3015/6010</b>	<b>0.050</b>	<b>0.17</b>
Lead.....	3015/7421	0.0050	N.D.
<b>Manganese.....</b>	<b>3015/6010</b>	<b>0.10</b>	<b>0.18</b>
Mercury.....	7470	0.0020	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
<b>Sodium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>40</b>

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director



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Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-D4  
Lab Number: 601-1178

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 26, 1996

**LABORATORY ANALYSIS: DISSOLVED METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
<b>Iron.....</b>	<b>3015/6010</b>	<b>0.050</b>	<b>1.6</b>
Lead.....	3015/7421	0.0050	N.D.
<b>Manganese.....</b>	<b>3015/6010</b>	<b>0.10</b>	<b>0.12</b>
Mercury.....	7470	0.0020	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
<b>Sodium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>30</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



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Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-D5  
Lab Number: 601-1179

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 26, 1996

**LABORATORY ANALYSIS: DISSOLVED METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Iron.....	3015/6010	0.050	N.D.
Lead.....	3015/7421	0.0050	N.D.
Manganese.....	3015/6010	0.10	N.D.
Mercury.....	7470	0.0020	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
Sodium.....	3050/6010	0.50	38

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



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Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water: Dup-1  
Lab Number: 601-1180

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 26, 1996

**LABORATORY ANALYSIS: DISSOLVED METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
<b>Iron.....</b>	<b>3015/6010</b>	<b>0.050</b>	<b>2.5</b>
Lead.....	3015/7421	0.0050	N.D.
<b>Manganese.....</b>	<b>3015/6010</b>	<b>0.10</b>	<b>0.12</b>
Mercury.....	7470	0.0020	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
<b>Sodium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>29</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



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Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-D1  
Lab Number: 601-1175

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 26, 1996

**LABORATORY ANALYSIS: TOTAL METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Hexavalent Chromium.....	7197	0.020	N.D.
<b>Iron.....</b>	<b>3015/6010</b>	<b>0.050</b>	<b>1.9</b>
Lead.....	3015/7421	0.0050	N.D.
Manganese.....	3015/6010	0.10	N.D.
Mercury.....	7470	0.0020	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
<b>Sodium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>36</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



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Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-D2  
Lab Number: 601-1176

Sampled: Jan 18, 1996  
Received: Jan 18, 1996

Analyzed: Jan 19-23, 1996  
Reported: Jan 26, 1996

**LABORATORY ANALYSIS: TOTAL METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Hexavalent Chromium.....	7197	0.020	N.D.
<b>Iron.....</b>	<b>3015/6010</b>	<b>0.050</b>	<b>0.15</b>
Lead.....	3015/7421	0.0050	N.D.
Manganese.....	3015/6010	0.10	N.D.
Mercury.....	7470	0.0020	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
<b>Sodium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>25</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director





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Carlson Environmental, Inc.  
100 W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-D3  
Lab Number: 601-1177

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 26, 1996

**LABORATORY ANALYSIS: TOTAL METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Hexavalent Chromium.....	7197	0.020	N.D.
<b>Iron.....</b>	<b>3015/6010</b>	<b>0.050</b>	<b>1.3</b>
Lead.....	3015/7421	0.0050	N.D.
<b>Manganese.....</b>	<b>3015/6010</b>	<b>0.10</b>	<b>0.18</b>
Mercury.....	7470	0.0020	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
<b>Sodium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>43</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
2 W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-D4  
Lab Number: 601-1178

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 26, 1996

**LABORATORY ANALYSIS: TOTAL METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Hexavalent Chromium.....	7197	0.020	N.D.
<b>Iron.....</b>	<b>3015/6010</b>	<b>0.050</b>	<b>6.6</b>
Lead.....	3015/7421	0.0050	N.D.
<b>Manganese.....</b>	<b>3015/6010</b>	<b>0.10</b>	<b>0.14</b>
Mercury.....	7470	0.0020	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
<b>Sodium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>31</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
100 W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water: MW-D5  
Lab Number: 601-1179

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 26, 1996

**LABORATORY ANALYSIS: TOTAL METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Hexavalent Chromium.....	7197	0.020	N.D.
<b>Iron.....</b>	<b>3015/6010</b>	<b>0.050</b>	<b>0.088</b>
Lead.....	3015/7421	0.0050	N.D.
Manganese.....	3015/6010	0.10	N.D.
Mercury.....	7470	0.0020	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
<b>Sodium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>39</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water: Dup-1  
Lab Number: 601-1180

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19-23, 1996  
Reported: Jan 26, 1996

**LABORATORY ANALYSIS: TOTAL METALS**

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
Arsenic .....	3015/7060	0.050	N.D.
Barium.....	3015/6010	0.050	N.D.
Cadmium.....	3015/6010	0.010	N.D.
Chromium.....	3015/6010	0.010	N.D.
Hexavalent Chromium.....	7197	0.020	N.D.
<b>Iron.....</b>	<b>3015/6010</b>	<b>0.050</b>	<b>6.5</b>
Lead.....	3015/7421	0.0050	N.D.
<b>Manganese.....</b>	<b>3015/6010</b>	<b>0.10</b>	<b>0.14</b>
Mercury.....	7470	0.0020	N.D.
Selenium.....	3015/7740	0.010	N.D.
Silver.....	3015/6010	0.050	N.D.
<b>Sodium.....</b>	<b>3050/6010</b>	<b>0.50</b>	<b>30</b>

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water  
Analysis for: Chloride, EPA 330.3  
First Sample #: 601-1175

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 24, 1996  
Reported: Jan 25, 1996

**LABORATORY ANALYSIS FOR: Chloride, EPA 330.3**

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
601-1175	MW-D1	1.0	30
601-1176	MW-D2	1.0	9.0
601-1177	MW-D3	1.0	44
601-1178	MW-D4	1.0	18
601-1179	MW-D5	1.0	7.8
601-1180	Dup-1	1.0	18

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water  
Analysis for: Non-Purgeable Organic Carbon, EPA 415.1  
First Sample #: 601-1175

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 23, 1996  
Reported: Jan 25, 1996

**LABORATORY ANALYSIS FOR: Non-Purgeable Organic Carbon, EPA 415.1**

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
601-1175	MW-D1	1.0	2.1
601-1176	MW-D2	1.0	N.D.
601-1177	MW-D3	1.0	1.3
601-1178	MW-D4	1.0	1.1
601-1179	MW-D5	1.0	1.4
601-1180	Dup-1	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

**Please Note:**

The Organic Carbon analysis was subcontracted to North Creek Analytical in Bothell WA.



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water  
Analysis for: pH by EPA 9040  
First Sample #: 601-1175

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 19, 1996  
Reported: Jan 25, 1996

**LABORATORY ANALYSIS FOR: pH by EPA 9040**

Sample Number	Sample Description	Sample Result pH units	Temperature °C
601-1175	MW-D1	7.6	13
601-1176	MW-D2	8.8	12
601-1177	MW-D3	7.7	13
601-1178	MW-D4	7.7	16
601-1179	MW-D5	8.2	14
601-1180	Dup-1	7.3	15

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water  
Analysis for: Phenol, EPA 420.4  
First Sample #: 601-1175

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 18, 1996  
Reported: Jan 25, 1996

**LABORATORY ANALYSIS FOR: Phenol, EPA 420.4**

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
601-1175	MW-D1	0.030	N.D.
601-1176	MW-D2	0.030	N.D.
601-1177	MW-D3	0.030	N.D.
601-1178	MW-D4	0.030	N.D.
601-1179	MW-D5	0.030	N.D.
601-1180	Dup-1	0.030	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director





1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water  
Analysis for: Specific Conductance, EPA 120.1  
First Sample #: 601-1175

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 18, 1996  
Reported: Jan 25, 1996

**LABORATORY ANALYSIS FOR: Specific Conductance, EPA 120.1**

Sample Number	Sample Description	Sample Result mhos/cm
601-1175	MW-D1	1,000
601-1176	MW-D2	600
601-1177	MW-D3	1,000
601-1178	MW-D4	1,100
601-1179	MW-D5	820
601-1180	Dup-1	1,000

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water  
Analysis for: Sulfate, EPA 375.2  
First Sample #: 601-1175

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 24, 1996  
Reported: Jan 25, 1996

**LABORATORY ANALYSIS FOR: Sulfate, EPA 375.2**

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
601-1175	MW-D1	5.0	280
601-1176	MW-D2	5.0	220
601-1177	MW-D3	5.0	330
601-1178	MW-D4	5.0	330
601-1179	MW-D5	5.0	270
601-1180	Dup-1	5.0	330

GREAT LAKES ANALYTICAL

Kevin W. Keeley  
Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Sample Descript: Water  
Analysis for: Total Organic Halogens, EPA 9020  
First Sample #: 601-1175

Sampled: Jan 18, 1996  
Received: Jan 18, 1996  
Analyzed: Jan 25, 1996  
Reported: Jan 25, 1996

**LABORATORY ANALYSIS FOR: Total Organic Halogens, EPA 9020**

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
601-1175	MW-D1	0.010	0.091
601-1176	MW-D2	0.010	0.014
601-1177	MW-D3	0.010	N.D.
601-1178	MW-D4	0.010	N.D.
601-1179	MW-D5	0.010	N.D.
601-1180	Dup-1	0.010	0.086

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

son Environmental, Inc.  
 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
 Matrix: Water

QC Sample Group: 6011175-1180

Reported: Jan 25, 1996

## QUALITY CONTROL DATA REPORT

ANALYTE	Arsenic	Barium	Cadmium	Chromium	Hexavalent Chromium	Iron	Lead
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<b>Method:</b>	3015/7060	3015/6010	3015/6010	3015/6010	7196	3015/6010	3015/6010
<b>Analyst:</b>	S. Jankowski	I. Griske	I. Griske	I. Griske	A. Mehrabi	I. Griske	S. Jankowski
<b>Units:</b>	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L

### LAB. CONTROL SAMPLE DATA

<b>Date Analyzed:</b>	Jan 19, 1996	Jan 22, 1996	Jan 22, 1996	Jan 22, 1996	Jan 19, 1996	Jan 23, 1996	Jan 19, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>LCS% Recovery:</b>	100	99	100	100	95	96	100
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### MATRIX SPIKE & DUP. DATA

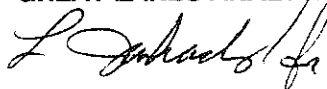
<b>Date Analyzed:</b>	Jan 19, 1996	Jan 22, 1996	Jan 22, 1996	Jan 22, 1996	Jan 19, 1996	Jan 23, 1996	Jan 19, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1	1	1

<b>Matrix Spike % Recovery:</b>	111	100	99	97	98	94	103
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<b>Matrix Spike Duplicate % Recovery:</b>	108	102	101	100	106	95	104
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<b>Relative % Difference:</b>	3.2	2.0	2.7	3.0	7.9	1.1	1.2
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GREAT LAKES ANALYTICAL



Kevin W. Keeley  
 Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Morrison Environmental, Inc.  
 2 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
 Matrix: Water

QC Sample Group: 6011175-1180

Reported: Jan 25, 1996

## QUALITY CONTROL DATA REPORT

ANALYTE	Manganese	Mercury	Selenium	Silver	Sodium
---------	-----------	---------	----------	--------	--------

<b>Method:</b>	3015/6010	7470	3015/7740	3015/6010	3015/6010
<b>Analyst:</b>	I. Graske	A. Mehrabi	S. Jankowski	I. Graske	I. Graske
<b>Concentration:</b>	1.0	0.0010	0.030	0.50	2.0
<b>Units:</b>	mg/L	mg/L	mg/L	mg/L	mg/L

### LAB. CONTROL SAMPLE DATA

<b>Date Analyzed:</b>	Jan 23, 1996	Jan 22, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1

<b>LCS% Recovery:</b>	98	100	99	103	82
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### MATRIX SPIKE & DUP. DATA


<b>Date Analyzed:</b>	Jan 23, 1996	Jan 22, 1996	Jan 19, 1996	Jan 22, 1996	Jan 23, 1996
<b>Instrument I.D.#</b>	1	1	1	1	1

<b>Matrix Spike % Recovery:</b>	96	100	98	9.5	81
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<b>Matrix Spike Duplicate % Recovery:</b>	97	100	100	15	82
---	----	-----	-----	----	----

<b>Relative % Difference:</b>	1.0	0	1.7	43	2.8
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GREAT LAKES ANALYTICAL



Kevin W. Keeley  
 Laboratory Director

<b>% Recovery:</b>	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
<b>Relative % Difference:</b>	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Nelson Environmental, Inc.  
 1 W. Randolph Street  
 Chicago, IL 60606  
 Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
 Matrix: Water

QC Sample Group: 6011178-1180

Reported: Jan 25, 1996

## QUALITY CONTROL DATA REPORT

ANALYTE	Chloride	Phenol	Specific Conductance	Sulfate	Total Organic Halogens
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<b>Method:</b>	330.3	420.4	120.1	375.2	9020
<b>Analyst:</b>	P. Hui	P. Hui	P. Hui	P. Hui	P. Hui
<b>Concentration:</b>	500	0.40	1,408	319	3.0
<b>Units:</b>	mg/L	mg/L	umho/cm	mg/L	mg/L

### LAB. CONTROL SAMPLE DATA

**Date Analyzed:** Jan 24, 1996 Jan 18, 1996 Jan 18, 1996 Jan 24, 1996 Jan 23, 1996

<b>LCS%</b>					
<b>Recovery:</b>	97	91	105	92	95

### MATRIX SPIKE & DUP. DATA

**Date Analyzed:** Jan 24, 1996 Jan 18, 1996 Jan 18, 1996 Jan 24, 1996 Jan 23, 1996

<b>Matrix Spike</b>					
<b>% Recovery:</b>	95	108	---	97	85

<b>Matrix Spike</b>					
<b>Duplicate %</b>					
<b>Recovery:</b>	96	103	---	98	128

<b>Relative %</b>					
<b>Difference:</b>	1.0	4.5	---	1.0	52

GREAT LAKES ANALYTICAL



Kevin W. Keeley  
 Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Carlson Environmental, Inc.  
W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Matrix: Water

QC Sample Group: 6011175-1180

Reported: Jan 25, 1996

## QUALITY CONTROL DATA REPORT

<b>ANALYTE</b>	Total Organic Carbon
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**EPA Method:** 415.1  
**Date Analyzed:** Jan 23, 1996

### ACCURACY ASSESSMENT:

**LCS Spike  
Conc. Added:** 5.0

**LCS Spike  
Result:** 5.2

**LCS Spike  
% Recovery:** 104

**Upper Control  
Limit:** 107

**Lower Control  
Limit:** 97

### PRECISION ASSESSMENT

**Sample #:** B601306-01

**Original:** 2.1

**Duplicate:** 2.2

**Relative %  
Difference:** 4.7

**Maximum  
RPD:** 16

**GREAT LAKES ANALYTICAL**



Kevin W. Keeley  
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Robertson Environmental, Inc.  
100 W. Randolph Street  
Chicago, IL 60606  
Attention: Sam Bodine

Client Project ID: 9233A, Robertson-Ceco Lemont Site  
Matrix: Water  
Method: pH  
QC Sample Group: 6011175-1180

Reported: Jan 25, 1996

### QUALITY CONTROL DATA REPORT

**ANALYTE**

pH

Method: 9040  
Analyst: P. Hui  
Units: pH

**LAB. CONTROL  
SAMPLE DATA**

Date Analyzed: Jan 19, 1996

Buffer pH: 7.0  
Measured pH: 7.0  
Relative %  
Difference: 0

**SAMPLE  
DUP. DATA**

Sample pH: 7.6  
Sample  
Duplicate pH: 7.6  
Relative %  
Difference: 0

**GREAT LAKES ANALYTICAL**

Kevin W. Keeley  
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$





# CHAIN-OF-CUSTODY RECORD

No. 6030

CARLSON ENVIRONMENTAL, INC.

312 W. Randolph St.

Chicago, IL 60606

(312) 346-2140

PROJ. NO. 2334  
PROJECT NAME Roberton - Ceca  
SAMPLERS: (Signature) San Bodine  
SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE) Lemay + Site

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)	NUMBER OF CONTAINERS	REMARKS
1	MW-01	1/18/05			X	500 mL plastic - no preservatives	X	1	6011175
2					X	500 mL plastic - no preservatives	X	1	
3					X	500 mL plastic w/ Nitric Acid	X	1	
4					X	1 L Amber bottle - 70% Sulfuric Acid	X	1	
5					X	60 mL vials w/ HCL	X	3	
6					X	1 L plastic - no preservatives	X X X	1	
7									
8									
9									
10									

REMARKS 5 dy TAT Received on ICE

\* Reference Invoice # K049

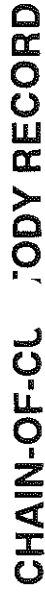
\* Please filter & discard metals

\* For results to San Bodine  
312-346-6956

Relinquished by: (Signature)	Date/Time 1/18/05	Received by: (Signature)	Date/Time 1/18/05
Relinquished by: (Signature)	Date/Time 1/18/05	Received by: (Signature)	Date/Time 1/18/05
Relinquished by: (Signature)	Date/Time 1/18/05	Received by: (Signature)	Date/Time 1/18/05



No. 6-31



No. 6025

# CHAIN-OF-CUSTODY RECORD

**CARLSON ENVIRONMENTAL, INC.**

312 W. Randolph St.

**Chicago, IL 60606**

(312) 346-2140

PROJ NO 9233A		PROJECT NAME Robertson-Coco		PROJECT NAME Lament Site	
SAMPLERS: (Signature) Sam Bodine					
SAMPLERS: (Signature) Sam Bodine					
ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB
1	MW-03	1/18/05			X
2					X
3					X
4					X
5					X
6					X
7					
8					
9					
10					

SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)		ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)		NUMBER OF CONTAINERS		REMARKS	
500 ml plastic - no preservative		X		1		60111777	
1 L plastic - no preservative		X		1			
500 ml plastic - nitric acid		X		1			
1 L Amber - sulfuric acid		X		1			
100 ml Vials - HCL		X		3			
1 L plastic - no preservative		X		1			

Relinquished by (Signature) SCTT-12/05		Received by (Signature) 1/18/05	
Relinquished by (Signature) 1/18/05		Received by (Signature) 1/18/05	
Relinquished by (Signature) 1/18/05		Received by (Signature) 1/18/05	

5 July 77

\* reference invoice K007

\* Filter dissolved metals sample

\* For results to Sam Bodine

312-346-6956 received on ICE



No. 6u26

(312) 346-2140

PROJ. NO.	PROJECT NAME	SAMPLERS:		RECEIVED BY				
4133A	Roberts - Coco	(Signature)	(Signature)	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)
		San Bedine	San Bedine					
1	mm-VN	1/18	1100		X			500 ml plastic - no preservative
2					X			" " " "
3					X			500 ml plastic - nitric acid
4					X			1 L Amber - sulfuric acid
5					X			400 ml vials - HCL
6					X			1 L plastic - no preservative
7								
8								
9								
10								

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)
San B. Bedine	1/18/85	P. Bedine
San B. Bedine	1/18/85	J. Howell

Distribution: White - Accompanies Shipment; Yellow - Laboratory File. Pink - Coordinator Field Files



No. 6027



## CHAIN-OF-CU ODY RECORD

No. 6029

CARLSON ENVIRONMENTAL, INC.				312 W. Randolph St.		Chicago, IL 60606		(312) 346-2140	
PROJ. NO. 9733A		PROJECT NAME Robertson-Coe		SAMPLES: (Signature) Sam Bodine		SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)		ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)	
ITEM NO.	SAMPLE NUMBER	DATE	TIME	COM	GRAB	NUMBER OF CONTAINERS	REMARKS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)	
1	Dup-1	1/18			X	1	500 ml plastic - in preserch	X	Asse of metals
2					X	1	" " " "	X	Asse of metals
3					X	1	500 ml plastic - Nitric Acid	X	Asse of metals
4					X	1	1 L Amber - Sulfuric Acid	X	Asse of metals
5					X	3	90 ml vials - HCL	X	Asse of metals
6					X	1	1 L Plastic - in preserches	X	Asse of metals
7									
8									
9									
10									

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Sam Bodine	1/18/92	MTP	1/18/92
MTP	1/18/92	MTP	1/18/92
MTP	1/18/92	MTP	1/18/92

REMARKS

\* Reference invoice #K049

\* Filter dissolved metals sample

\* For results to Sam Bodine @ 312-346-6956 Received on ICE



# CHAIN OF CUSTODY REPORT

1380 BUSCH PARKWAY  
BUFFALO GROVE, ILLIN. 60089-4505  
(708) 808-7766 FAX (8) 808-7772

Client: GREAT LAKES ANALYTICAL		Bill To:		TAT: 5 DAY 4 DAY 3 DAY 1 DAY < 24 H	
Address: 1380 BUSCH PARKWAY BUFFALO GROVE, IL 60089-4505		Address:		DATE RESULTS NEEDED: 1/28/96	
Report to: L. Janbousky		State & Program:		TEMPERATURE UPON RECEIPT:	
Project: Carlson		Phone #: ( ) Fax #: ( )		AIR BILL NO.:	
Sampler:		TYPE CONTAINERS		ANALYSIS TYPE	
PO/Quote #:		PRESERVATIVES		SAMPLE CONTROL	
FIELD ID, LOCATION		NO. CONTAINERS		LABORATOR ID NUMBER	
DATE COLLECTED		SAMPLE MATRIX		CRACKED BROKEN IMPROPERLY SEALED GOOD CONDITION	
TIME COLLECTED		DATE		DATE	
1 6011175		H <sub>2</sub> O HCL 3 YOA		TOC	
2 6011176					
3 6011177					
4 6011178					
5 6011179					
6 6011180					
7					
8					
9					
10					
RELINQUISHED		DATE		RECEIVED	
K. Kull		1/18/96		1/28/96	
RELINQUISHED		DATE		RECEIVED	
1700 AM		DATE		DATE	
		TIME		TIME	
COMMENTS:		PAGE		OF	

**ATTACHMENT E**  
**CERTIFICATIONS**



This statement is to be completed by both a responsible officer of the owner or operator (as defined in 35 IAC 702.126) and a responsible officer (as defined in 35 IAC 702.126) of the laboratory which conducted the chemical analyses required as part of closure activities. The original of this statement shall accompany the original certification statement for closure activities at this site.

Laboratory Certification

Closure Log C-68

The applicable sample collection, handling, preservation, preparation and analysis conducted as part of closure activities at the facility described in this document that the chemical laboratory was responsible for has been conducted in accordance with the specification in the approved workplan. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

ILD990785453  
USEPA ID Number

ROBERTSON-CELO CORPORATION SITE  
Facility Name

\_\_\_\_\_  
Signature of Owner/Operator    Date

\_\_\_\_\_  
Name and Title of Owner/  
Operator Representative

Great Lakes Analytica  
Name of Laboratory

[Signature] 2-12-96  
Signature of Laboratory    Date  
Responsible Officer

Kevin W. Kealey / President  
Name and Title of Laboratory  
Responsible Officer  
Mailing Address of Laboratory

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
MH:bjh/sp/382X/7

ATTACHMENT 1

This statement is to be completed by both the responsible officer and by a registered professional engineer upon completion of closure. Submit one copy of the certification with original signatures and three additional copies.

Closure Certification Statement

Closure Log C-68

The hazardous waste management unit at the facility described in this document has been closed in accordance with the specifications in the approved closure plan. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

ILD990785453  
USEPA ID Number

Robertson-Ceco Corp. Site  
Facility Name

Signature of  
Owner/Operator

Date

Name and Title

Signature of  
Registered P.E.

Date

Kenneth W. James, P.E. #062-036808  
Name of Registered P.E.  
and Illinois Registration  
Number

Kenneth W. James, P.E.

Carlson Environmental, Inc.

< P.E. Seal >

312 W. Randolph St., Suite 300

Chicago, IL 60606

Address of Illinois  
Registered P.E.

ECB:MAH:bjh/sp/382X/6